

# Southern Luzon State University's **2021 VIRTUAL AGENCY IN-HOUSE REVIEW**

## **PROCEEDINGS**



**SOUTHERN LUZON STATE UNIVERSITY  
2021 VIRTUAL AGENCY IN-HOUSE REVIEW  
PROCEEDINGS**

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**Office of Research Services (ORS)**

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**Agency In-House Review of  
Research Proposals**

**P.4**

**Agency In-House Review of  
Completed Research**

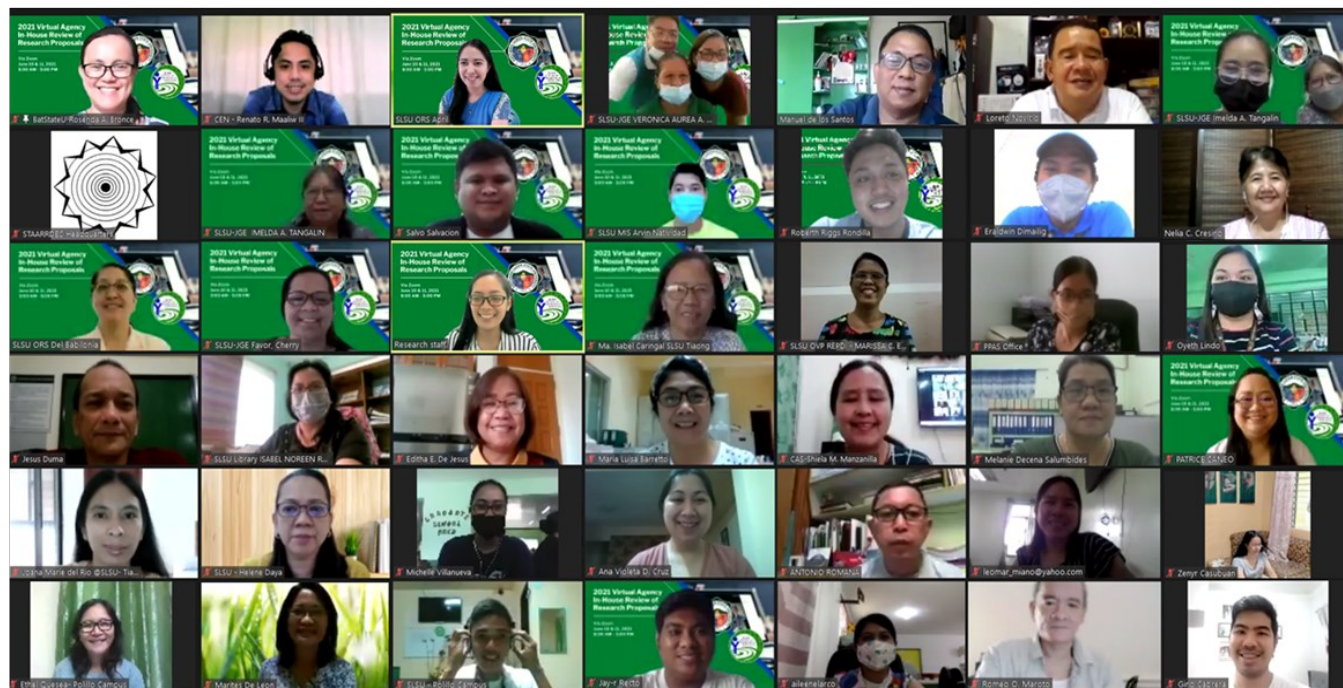
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**Agency In-House Review of  
Completed and Ongoing  
Extension Projects**

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# Virtual Agency In-House Review of Research Proposals

June 10-11, 2021 | Via ZOOM Video Conference




The ORS invited the proponents of the qualified proposals to present in the Agency In-House Review (AIHR) wherein an external panel from the Southern Tagalog Agriculture, Aquatic, and Resources Research, Development, and Extension Consortium (STAARRDEC) Pool of Experts served as evaluators. The invited evaluators lauded SLSU researchers for the novel and timely proposals presented during the two-day AIHR, June 10-11, 2021.

In general, the evaluators commended the proponents for coming up with very relevant and responsive research proposals. The evaluators also praised the SLSU's Institutional Research Evaluation Committee (IREC) for doing an excellent job in providing useful inputs during the pre-screening of proposals before its presentation in the AIHR.

SLSU researchers presented a total of 21 proposals. For the seven proposals under the Innovation and Development Category, **Dr. Rosenda A. Bronce**, the Director for Research and Development of Batangas State University, served as the lead evaluator. **Dr. Loreto A. Novicio**, the Chair of the Program/Project/Technology Evaluation Monitoring Committee of the Department of Science and Technology - Forest Products Research and Development Institute (DOST-FPRDI), evaluated the four proposals under the Environmental Science and Natural Sciences Category. **Dr. Nelia C. Cresino**, a retired Professor 6 at the Cavite State University, examined the ten proposals under the Social Sciences and Education Category.

The proponents shall comply with the experts' suggestions to be qualified for




presentation to the Research and Extension Council and to the Academic/Finance Committee of the SLSU the Board of Regents (BOR), respectively, to gain the bodies' endorsement to the BOR.

The following proposals were evaluated:

### **Innovation and Development**

1. Viability of establishing teleradiology system in Southern Luzon State University (*Dr. Manuel P. delos Santos and Prof. Brainerd Aldrin Lopez*)
2. Production optimization of Nipa Sweeteners Shared Service Facility (SSF) Project in SLSU Infanta Campus (*Dr. Violeta N. Coronacion, Dr. Wendy C. Nombrefia, Prof. Roldan D. Jallorina, & Ms. Mira O. Reyes*)
3. Development of *langkawas* (*Alpinia galangal* L.) enhanced dilis (*Stolephorus commersonii*) bagoong (*Prof. Reydante P. Gordula, Prof. Veronica Aurea A. Rufo, & Prof. Maripaz T. Lampos*)
4. Development of Madre de Agua (*Trichanthera gigantea*) and girdled horn snail (*Cerithidea cingulate*) pelleted feed for native pig (*Dr. Imelda A. Tangalin, Prof. Veronica Aurea A. Rufo, & Ms. Manirose S. Lucban*)
5. The role of SEEDS: Developing and piloting community-based farming systems in Quezon Province (*Prof. Salvo O. Salvacion, Prof. Ma. Isabel V. Caringal, & Dr. Angelito L. Mangubat*)
6. IoT Soil Nutrient Detecting Device using Color Sensor and LoRa Technology for rice field (*Prof. Arvin N. Natividad*)
7. Time-series forecasting of COVID-19 cases using ensemble machine learning (*Dr. Renato R. Maaliw III, Dr. Dhenalyn A. Dejelo, & Dr. Ma. Genevieve L. Cuarto*)

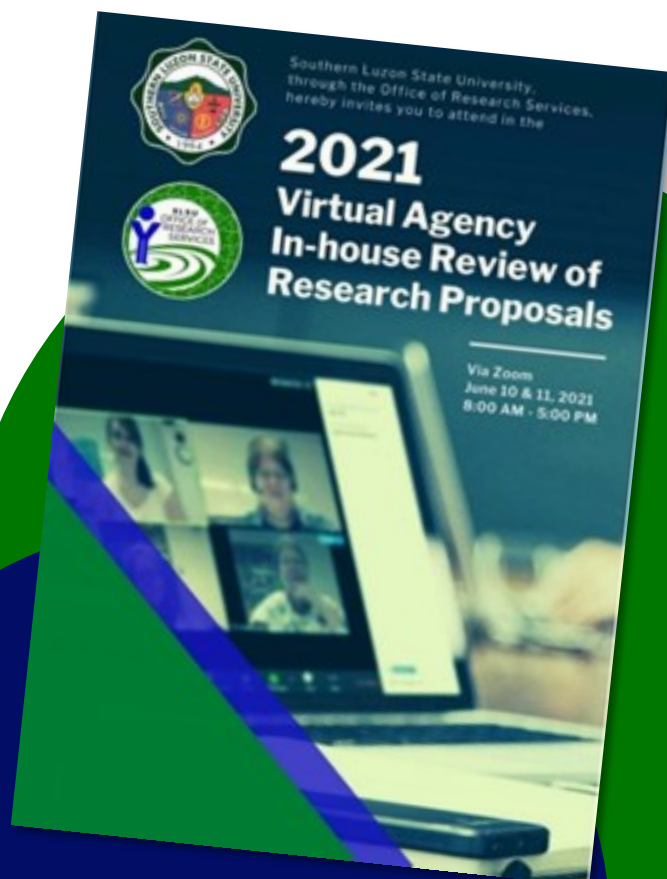
### **Environmental and Natural Sciences**

1. Forest growth and biomass dynamics in reforestation areas in Mt. Banahaw de Lucban using remote sensing and Geographic Information System (*For. Eraldwin A. Dimailig, For. Ronald C. Garcia, & For. Dennis E. Pulan*)
  2. Distribution, phytochemical screening, and biological activities of selected *Zingiber* species in Mount Banahaw de Lucban (*Dr. Editha E. De Jesus, Dr. Julieta A. Lindo, and Prof. Roberth Riggs Rondilla*)
  3. Environmental literacy: Exploration on intervention development for proactive engagement on environmental conservation and climate change adaptation (*Prof. Cherry C. Favor, Dr. Zenaida C. Angeles, Dr. Imelda A. Tangalin, & Dr. Felix B. Lampos, Jr.*)
  4. Productivity, profitability and quality of honey, pollen and propolis of stingless bees in various bee hive materials (*Prof. Ma. Isabel V. Caringal, Prof. Roy S. Dayo, Prof. Jesus C. Duma, & Prof. Joana Marie P. Del Rio*)
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## Social Sciences and Education Category

1. Data protection practices of Southern Luzon State University: A proposed Data Privacy Manual (Prof. Richard Veluz, Dr. Leomar C. Miano, & Ms. Aurora L. Sumague)
2. Assessment of COVID-19's impact on Small and Medium Enterprises in Quezon Province through business health check (Prof. Jennyfer Edytha E. Japor, Dr. Leomar C. Miano, & Prof. Patrice A. Caneo)
3. Challenges and resiliency of older adults amidst COVID 19 pandemic: A holistic approach (Dr. Ana Violeta D. Cruz, Prof. Maria Luisa E. Barretto, & Prof. Jessica A. Sabas)
4. Midwives' spiritual care competency: Basis for spirituality workplace (Prof. Roylan A. Almacen, Dr. Medel O. Cabalsa, & Dr. Sandra D. Elma)
5. Online learning and mental health of College students during the COVID-19 Pandemic (Dr. Helene D. Daya)
6. Techno-Psych Serv: Technology-based psychological services applied to selected male and female adolescents and adults with special needs (Dr. Marissa C. Esperal & Prof. Michelle V. Ramirez)
7. Readiness of SLSU Catanauan students in the licensure examination (Prof. Francis B. Laguardia, Prof. Jhona A. Ilao, Dr. Aileen V. Elarco, & Prof. Katrina Camille P. Mendones)
8. Behind the tattered fishing net: A story of resilience of fishing community (Prof. Jay-Ar C. Recto, Prof. Esmeraldo G. Arat, Prof. Cherry C. Favor, & Dr. Rebecca D. Jason)
9. Acceptance of COVID-19 Vaccine: A challenge in Tagkawayan Community (Dr. Melanie D. Salumbides, Prof. Cristina D. Nicolas, Prof. Wilma L. Comia, & Prof. Glenda P. Flores)
10. Level of stress, coping mechanism and job satisfaction of SLSU Instructors amidst Covid 19 pandemic (Prof. Ethel Queddeng-Quesea, Prof. Marites P. De Leon, & Prof. Jericho L. Marasigan)



# **Viability of establishing teleradiology system in Southern Luzon State University**

Manuel P. delos Santos, PhD & Prof. Brainerd Aldrin Lopez

## **EXECUTIVE SUMMARY**

Diagnostic radiology has become the eye of medicine in terms of diagnosing and treating injury and diseases back in the 1990s. This technology is the empirical foundation of teleradiology. Teleradiology is a technological innovation wherein qualified physicians interpret medical images even they are not physically present in the location where the images were generated. This system is not new in the Philippines, where it is being practiced for more than a decade already.

Since diagnostic imaging services are available in the university, the proponents would like to extend its services to satellite campuses. Proponents, therefore, would like to determine the viability of establishing teleradiology in Southern Luzon State University.

During this study, the researchers' objective is to determine the readiness and capability of SLSU in establishing a teleradiology system. They also aim to look for the possibility that the satellite campuses will remotely access teleradiology services provided in SLSU Main Campus. This research ultimately aims to support the establishment of a teleradiology system in Southern Luzon State University.

This study will benefit the College of Allied Medicine, as well as the university, as it adopts new trends and technological advancement. This will be made possible with the help of the faculty members of Radiologic Technology, together with the collaborative effort of the present Radiologic Technologist Staff. The researchers hope to finish this study within 12 months upon its approval.

# **Production optimization of Nipa Sweeteners Shared Service Facility (SSF) Project in SLSU Infanta Campus**

Violeto N. Coronacion, PhD, Wendy C. Nombrefia, PhD,  
Prof. Roldan D. Jallorina, & Ms. Mira O. Reyes

## **EXECUTIVE SUMMARY**

The proposed R&D project for the optimization of the Nipa Sweeteners SSF is a vital component to operationalize the nipa sugar facility established in the SLSU Infanta campus. The main goal of the study is to develop Standard System Operations and Procedures (SSOP) for the production of nipa sweeteners at a commercial scale. It also aims to establish standard production protocols and quality control parameters for Nipa Sweeteners. The study will utilize a descriptive and experimental type of research, particularly in developing standards protocols in the production and operation of the facility. However, the researchers will use the experimental method in establishing standard parameters for every process during optimization. The study has a duration of one (1) year to cover a single season of nipa production. The assigned staff from SLSU Infanta and other affiliate experts from the main campus, particularly in the college of mechanical engineering, will be part of the research team. The supply of raw materials, the fresh nipa sap that is partially processed and cooked in the satellite facilities, will be supplied by the four partner POs. Ultimately, the proponents expect that this study shall be instrumental in promoting nipa as an emerging industry that will provide new livelihood opportunities to the farmers and boost the local economy of municipalities that have established nipa plantations.



# Development of *langkawas* (*Alpinia galangal* L.) enhanced *dilis* (*Stolephorus commersonii*) *bagoong*

Prof. Reydante P. Gordula, Prof. Veronica Aurea A. Rufo, &  
Prof. Maripaz T. Lamos

## EXECUTIVE SUMMARY

The *bagoong* (fish paste) is a Philippine condiment made of partially or completely fermented fish. It is usually made from a variety of fish species like anchovies (*dilis*), *galunggong*, *alamang*/tiny shrimps. (Villaluz, 2021).

The *bagoong* is prepared by mixing salt and fish, usually with proportionality with the volume in weight (1 part salt to 3 parts fish). It is thoroughly mixed manually or by using a paddle device when a huge mixture is involved. The mixture is securely stored to prevent contamination and insect infestation, and the salt content of the product should be at least 25% to prevent spoilage. It must undergo a heat penetration test to determine the shelf stability of the product as discussed by Villaluz in her talk in a Zoom Webinar last January 26, 2021, sponsored by DOST-TDI.

In this study, the researchers will utilize the *langkawas* as the herb-enhancer of *dilis bagoong* in three different ratios. For the control treatment, there is no *langkawas* extract in the *dilis bagoong*. In Treatment 1, there is 85 g of *langkawas* extract in 3 kgs of *bagoong*. For Treatment 2, there is 170 g of *langkawas* extract in 3 kgs *bagoong*; while, there is 340g of *langkawas* extract mixed in 3 kgs *bagoong* for Treatment 3. The team will subject the products to microbiological analysis and under packaging evaluation using foil, plastic bottles, and glass bottles. This research will enhance the income-generating activity through the commercial production of the developed product. The students taking Food or Fish Processing courses and the future researchers interested in the food development category shall also benefit from this study. Most importantly, the small-scale entrepreneurs who want to venture into this innovative food business, together with the future adopters of this technology, may achieve economic upliftment if the project becomes successful.

# Development of Madre de Agua (*Trichanthera gigantea*) and girdled horn snail (*Cerithidea cingulate*) pelleted feed for native pig

Imelda A. Tangalin, PhD, Prof. Veronica Aurea A. Rufo, & Ms. Manirose S. Lucban

## EXECUTIVE SUMMARY

Almost all livestock feeders agree that animals make better gains on pelleted feed than a meal ration. The purpose of pelleting is to take a finely divided, sometimes dusty, unpalatable, and difficult-to-handle feed material to form it into larger particles by using heat, moisture, and pressure. These larger particles are easier to handle, more palatable, and usually result in improved feeding when compared to unpelleted feeds. (www.cpm.net)

Hence, the researchers came up with this proposal to utilize the available resources used as meal rations to native pigs in the locality of Tagkawayan, Quezon. The researchers will assess the madre de agua and girdled horn snail to record the number of areas where these species can be found using the Geographical Information System (GIS).

The powdered *Trichanthera gigantea* (plant protein) and powdered *Cerithidea cingulata* (animal protein) will be subjected to crude protein analysis before processing into pelleted feeds and will be tested for the growth analysis of native pigs. The team shall conduct proper monitoring and documentation to ensure low mortality and non-occurrence of diseases.

The best treatment of pelleted feeds in which native pigs have gained most weight will be subjected to proximate analysis. These pelleted feeds will be commercialized and will undergo financial viability test in the next phase of the study.

# **The role of SEEDS: Developing and piloting community-based farming systems in Quezon Province**

Prof. Salvo O. Salvacion, Prof. Ma. Isabel V. Caringal, & Angelito L. Mangubat, PhD

## **EXECUTIVE SUMMARY**

Quezon Province is considered as one of the food baskets in the CALABARZON area. Hence, agricultural development is one of the flagship programs of the current administration to lead in the improvement of the production and marketing of agricultural products in Quezon. However, there are still needs for some improvement, like seed quality enhancement and production of certified quality seed. The quality of seed determined the potential of any crop. Quezon province is quite distance from institutions providing services in seed production, assessment and certification like International Rice Research Institute (IRRI) in Laguna and PhilRice in Nueva Ecija. However, Quezon Province has a state university offering agriculture degrees with satellite campuses all over Quezon province the Southern Luzon State University. SLSU, particularly Tiaong Campus can provide a venue for identification, production, preservation, and distribution of quality seeds to the province of Quezon for it has facilities like the Seed Technology Laboratory.

The Seed Tech Laboratory in Tiaong Campus will be used to test the quality of planting materials that is being used in the province and to select which variety will be suited for each locality. Selection will be done by conducting field trials and research which involves adaptability, varietal, and fertilizer trials and once a particular variety is set in a locality it will be mass produced and a community-based farm will be established with the help of the Local Government Unit. This project will also be significant to organic agriculture practitioners who have difficulty in finding good quality seeds to be used in their production because seeds treated with pesticides, genetically modified, and transgenic are not allowed to be used in the production. The focus of this study is to select the best traditional and open pollinated varieties that is being used by the farmers and subject it to mass production. These mass produced seeds will be distributed to farmers who are practicing organic farming and to those communities who will be trained to established their own community-based farm.

# IoT Soil Nutrient Detecting Device using Color Sensor and LoRa Technology for rice field

Arvin N. Natividad, DIT

## EXECUTIVE SUMMARY

With 513,618 hectares of agricultural land, the province of Quezon is one of the biggest agricultural producers in CALABARZON and made it to the top 8 in the national rating in terms of farm implemented programs in its 39 municipalities and two cities, as revealed in the survey of Philippine Statistics Authority (PSA).

In CALABARZON, the province of Quezon is one of the most important agricultural provinces as it produces staple foods such as rice and corn. Annually, it could supply almost 200,000 MT of corn and rice. This supply constitutes almost 42% of the total rice and corn requirement of the whole region. Yet, as revealed by PSA, several parts of the province are still in the less critical state in terms of rice production. Some of the reasons are the decreasing the number of agricultural farm areas due to land conversion; poor quality infrastructure for rice farming; lack of irrigation system; natural calamities such as droughts, overflowing of river systems; lack of knowledge in good farming practices; and, less support for rice farmers education. It is, therefore, timely to conduct more research on rice production and incorporate technology in gathering more data for the end purpose of providing solutions or alternatives.

Thus, this project proposal aims to develop a device that can be used in rice field soil testing and data collection. All the data acquired by the device will be stored in a web-based application to be used as a reference for farmer and partner agencies. The project will begin through a series of meetings with partner agencies such as the Department of Agriculture, Provincial Government Office of Quezon, Office of Provincial Agriculturist, and DOST IV-A. The researcher will also gather secondary data from the concerned agencies to serve as reference data. For data validation, soil collection and testing will be done in the actual rice field. All data collected will be transmitted using LoRa technology and be stored in the web-based application; thus, providing the client with the software interface that can visualize and interact with the data leading to better decision making.

# Time-series forecasting of COVID-19 cases using ensemble machine learning

Engr. Renato R. Maaliw, III, DIT, Dhenalyn A. Dejelo, PhD, &  
Dr. Ma. Genevieve L. Cuarto

## EXECUTIVE SUMMARY

The outbreak of the '2019 novel coronavirus' (COVID-19) has disrupted the world economy due to the disease's contagious nature and high mortality rates. Economists agree that the pandemic has already affected global economies by a loss of at least 3 percent gross domestic product (GDP) over 2020. Policy-makers face the arduous task of developing measures to contain the spread of the pandemic. The government faces a conundrum of how to reduce deaths while tolerating the severe consequences of economic depression. As of this date, the overall global epidemic infection is over 130 million, with over 2.8 million deaths.

National policies and initiatives aimed at reducing the virus spread are crucial in influencing subsequent infection, death, and recovery rates. Epidemiologists and other experts have made clear arguments that pandemics are imminent and that there is an immediate need to be prepared to deal with them at any time. Experts in epidemiology are suggesting sophisticated statistical data analysis to make smart and calculated decisions. They emphasize the need to spend valuable resources on better forecasting instead of focusing it on tracking fatalities. It is important to recognize particular measures that are effective at suppressing the virus while having the least impact on people's economic lives. Unfortunately, the present condition cannot be significantly altered before a viable vaccine is discovered, which is unlikely to occur for more than a year.

Forecasting time-series data will immediately assist policymakers and planners in making more informed decisions during current and future pandemics. This research proposal makes a significant contribution by developing a prediction model for reported coronavirus cases over one year by integrating classical time series forecasting models with ensemble machine learning algorithms. The proposed research will also analyze forecast accuracy in terms of different planning horizons and the performance of the prediction intervals by comparing the model's performance to the actual forecasts of different countries.



# **Forest Growth and Biomass Dynamics in Reforestation Areas in Mt. Banahaw de Lucban using Remote Sensing and Geographic Information System**

Eraldwin A. Dimailig , For. Ronald C. Garcia, & For. Dennis E. Pulan

## **EXECUTIVE SUMMARY**

The Philippine rainforest is considered to have a rich biodiversity because of its enormous human benefits like water purification (sewage) and CO<sub>2</sub> sequestration both in the global, regional, and local setting. Production of quality air, control of pests and diseases prevention of erosion, facilitates pollination, sources of food, clothing, shelter and medicines and other industrial materials, recycling of nutrients, regulates the chemistry of our atmosphere and provision of fertile soil are some of its great contributions for the continuous existence of life forms on earth. Not mentioning other benefits gained from leisure, cultural and other aesthetic values. Nowadays, these benefits are declining due to the introduction and proliferation of invasive species, pollution, habitat destruction and other human interventions aggravated by increase in population, kaingin and/or upland agriculture, over harvesting due (illegal and legal logging) and land conversion. As a result, environmental and human destruction are very evident in various parts of the country. There were already numerous research and studies conducted in Mt. Banahaw. However, there is not much available and updated information on the status of different plantations established inside the Mt. Banahaw de Lucban specifically in Brgy. Palola. Thus, a proposal to assess Mt. Banahaw de Lucban, specifically Brgy Palola Side, is proposed.

Plantation of different species inside the Mt Banahaw de Lucban was established during the early 90's and as of now the data on this area were very limited as to its importance and biological conservation specially that this is leased to Southern Luzon State University for another 25 years to maintain/facilitate the protection, conservation, and management of the said mountain.

The information to be generated from this research could serve as a baseline data for future research and input in environmental management planning of the institutions (SLSU, LGU, and DENR) involved in the proposed eco-tourism park of the area. The IEC/campaign materials that will be developed in this study will be useful to instructors/professors and students in community environmental education.

# Distribution, phytochemical screening, and biological activities of selected *Zingiber* species in Mount Banahaw de Lucban

Editha E. De Jesus, Ph.D, Prof. Julieta A. Lindo, & Prof. Roberth Riggs Rondilla

## EXECUTIVE SUMMARY

The genus *Zingiber* is commonly known as ginger and is one of the 53 genera of the family of Zingiberaceae belonging to order Zingiberales with approximately 1,500 (Kress *et al.*, 2002; Lamb *et al.*, 2013) to 1,600 (Pitopang *et al.*, 2019) species. This moderately large genus is distributed in the tropics, mainly in Southeast Asia, Malaysia, and the Pacific Islands (Bin Jantan *et al.*, 2003; Chen *et al.*, 2008).

Scientific reports indicated that the different parts of the plants, including the rhizome, shoot, leaves, and flowers, exhibit various biological effects such as antimicrobial, anti-inflammatory, antioxidant, antifungal, anti-parasitic, and cytotoxic activity (Poongprayoon *et al.*, 1996; Habsah *et al.*, 2000; Kantayos & Paisooksantivatana, 2012; Judin *et al.*, 2016; Ganapathy and Nair, 2017; El-Mesallamy *et al.*, 2017). They contain secondary metabolites that they use for growth and development, survival, and defense mechanisms. They can also be utilized as a potential cure for ailments because of their bioactivities (Choa *et al.*, 2016; Rusak *et al.*, 2008). Mood & Theliade (2001) discovered two new species of *Zingiber* named and commemorated based on their respective localities. The *Zingiber banahaoense* was collected in Mt. Banahaw de Dolores and *Z. matutumense* in Mt. Matutum, Mindanao. Interestingly, these species are endemic in the Philippines. However, studies on ecology, distribution, and ethnobotany of the family Zingiberaceae, including *Z. banahaoense*, are insufficient and outdated (Naïve, 2017). To date, the distribution of the *Zingiber* spp. in Mount Banahaw, as well as its phytochemical profile and potential bioactivities, are not yet studied.

Thus, this study aims to address these issues. Additionally, the data to be generated from this investigation may result in the continuous discovery of potential metabolites that may support and contribute to the health systems. Likewise, this will also serve as an added scientific information in the field of biodiversity and distribution of *Zingiber* spp., especially with its occurrence in Mt. Banahaw. Furthermore, this could be a future potential study in the development of natural products.

# **Environmental literacy: Exploration on intervention development for proactive engagement on environmental conservation and climate change adaptation**

Prof. Cherry C. Favor, Zenaida C. Angeles, PhD,  
Imelda A. Tangalin, PhD, & Felix B. Lamos, Jr., PhD

## **EXECUTIVE SUMMARY**

The Philippines is often struck with typhoons causing the soil to reach its capacity to absorb water, resulting in tremendous flooding that destroys properties, infrastructures, and even human lives. Despite the government's effort to lessen losses and the supposed lessons learned by the affected communities, the same scenarios still happen. This may be either due to the inevitable climate change or the lack of environmental education of both those in the government, as well as the local citizens. To reach a reasoning base on a scientific study, the researchers opt to conduct this study.

The researchers would like to assess environmental literacy and the social vulnerability of the stakeholders composed of students, teachers, government employees, persons from business sectors, farmers, fisherfolks, head of the family, private citizens, politicians, local executives, and even people from the non-government organization. The team will choose the participants from the four zonal districts of Tagkawayan using stratified random sampling. The study will adopt a descriptive survey design and will use the survey questionnaires from the study of Boiyo, K. V. (2014). The researchers modified the instrument to suit the purpose of the study, where KII (Key Informant interview) and FGD (Focus Group Discussion) will be done for the social vulnerability assessment. The stakeholders' environmental awareness and participation levels to environmental organizations or activities will be determined through Environmental Awareness and Active Participate Scale (EAAPS) adopted from the study of Altin A. *et al.* (2014) using a 5-point Likert scale. Data collected for social vulnerability and environmental literacy will be interpreted using mixed methods (Qualitative and Quantitative). There shall also be a further assessment for gender issues covering the abovementioned study.

# Productivity, profitability and quality of honey, pollen and propolis of stingless bees in various bee hive materials

Prof. Ma. Isabel V. Caringal, Prof. Roy S. Dayo,  
Prof. Jesus C. Duma, & Prof. Joana Marie P. Del Rio

## EXECUTIVE SUMMARY

In 2015, Southern Luzon State University-Tiaong Campus set up its apiculture arm called Regional Apiculture Research and Development Center (RARDC). Since then, massive seminars and training were implemented to extend the beekeeping technology to the farmers of Quezon as its launching pad for regional operation and has succeeded in putting up the farmer cooperators composed of individual farmers/beekeepers from different areas of Quezon. Right now, the Apiculture Center has conducted numerous seminars and training series. To complete the purpose of RARDC establishment, a collaborative effort of the SLSU faculty members is advisable, especially in researching bees to reinforce the center's mission of the center.

A limiting factor in the production of stingless bee honey is how domesticated colonies are housed. Different species of stingless bees can be propagated in many ways using bamboos, wooden hives, or clay pots. But for the *Tetragonula* sp., coconut shells seem to be the ideal hive, especially in coconut growing areas. This technology was developed in the Philippines and tested with beekeepers for many years. (<https://teca.apps.fao.org/teca/en/technologies/8251/>)

However, there is a dearth of published information on the productivity, profitability, and quality of stingless bees (*Tetragonula* sp.) honey, pollen, and propolis in various beehive materials. The technical and economic feasibility of stingless bees would have far-reaching implications. This study will be an attempt to identify the best hive structure using different beehive materials. The outcomes of research can be extended to the general public particularly farmers/beekeepers, extension agents, and students. This can be done through farmer's field schools, training, and workshops, and the use of pamphlets and brochures as well as other publications (print and electronic).

# Data protection practices of Southern Luzon State University: A proposed Data Privacy Manual

Prof. Richard Veluz, Leomar C. Miano, PhD, & Ms. Aurora L. Sumague

## EXECUTIVE SUMMARY

Data protection aims at guaranteeing the individual's right to privacy. It refers to the technical and legal framework designed to ensure that personal data are safe from unforeseen, unintended, or malevolent use. Data protection, therefore, is a measure concerning collection, access to data, communication, and conservation of data. Data privacy is vital in government agencies, including state universities, because they collect and share information from the stakeholders. Due to the vast amount of data sharing occurring in an academic setting, the university must ensure that the employees adhere to the Data Privacy Act to impose conscientious behaviors.

According to Republic Act No. 10173, it is the policy of the state to protect the fundamental human right of privacy and communication while ensuring the free flow of information to promote innovation and growth. The State recognizes the vital role of information and communications technology in nation-building and its inherent obligation to ensure that personal information stored in information and communications systems in the government and the private sector are secured and protected. The government enacted the Data Privacy Act to prohibit the disclosure of personal information without acquiring proper consent. Since the university has no manual for data protection yet, the proponents came up with this research proposal to ensure that the university is adhering to the Data Privacy Act. This research will be instrumental in developing a policy manual on the data privacy of the university.



# **Assessment of COVID-19's impact on Small and Medium Enterprises in Quezon Province through business health check**

Prof. Ma. Isabel V. Caringal, Prof. Roy S. Dayo,  
Prof. Jesus C. Duma, & Prof. Joana Marie P. Del Rio

## **EXECUTIVE SUMMARY**

One of the priority areas of Harmonized National Research and Development Agenda (HNRDA) is countryside development, particularly MSMEs' competitiveness and productivity. It is backed by Southern Luzon State University's (SLSU) Priority Programs which include micro, small, and medium scale enterprises and competitive industry. To support this national and institutional endeavor, this research project aims to assess the impact of the Coronavirus (COVID-19) pandemic on small and medium enterprises' (SMEs) business management practices by utilizing Business Health Check. Eventually, this project aims to improve the management practices of the SMEs in the province, especially in the time of economic distress.

The Business Health Check will focus on the fundamentals of business management as to finance, operations, human resource, marketing, and strategy. This study shall apply a phenomenological approach, as well as the triangulation approach. The research area is the Growth Corridor Areas of Quezon Province identified by DTI-Quezon, namely, Lucena City, Tayabas City, Candelaria, Pagbilao, Lucban, Tiaong, and Sariaya. The industries to be studied are those highly affected by COVID-19 in the Philippines as identified by TESDA (2020) based on International Labour Organization (ILO) ranking, and limited to those applicable to SMEs such as the wholesale and retail trade, food services, and hotel.

The project's expected outputs are publication and partnership. The proponents aim to present the result of this study in a consortium and publish it in a high indexed journal once completed to increase the visibility of the issues concerning the management practices of the SMEs during the COVID-19 Pandemic. A partnership with DTI-Quezon, through an existing MOA between them and SLSU, was already established. As such, they were able to provide the data presented in this project. Eventually, the outcomes of this project will be people services through crafting a community extension program and partnership with the local government unit (LGU).

# Challenges and resiliency of older adults amidst COVID-19 pandemic: A holistic approach

Ana Violeta D. Cruz, PhD, Prof. Maria Luisa E. Barretto, & Prof. Jessica A. Sabas

## EXECUTIVE SUMMARY

The COVID-19 pandemic is a global health emergency with severe consequences on people's health status and results in a great variety of challenges to the community and the health care system. The severity and fatality are higher in the older adults, immuno-suppressed, socially impoverished, people with an existing respiratory condition, and chronic medical comorbidities - all of which can be pre-disposing risk factors at an increased age. Wu and McGoogan (2020) stated that the older adult's age group already has unique physical, psycho-social and environmental vulnerabilities due to their frailty. A comparative study by Liu *et al.* (2020) explained that COVID-19 patients above 55 years had three times increased mortality and have an increased hospitalization, delayed clinical recovery, increased pulmonary involvement, faster disease progression, and comorbidities such as diabetes and hypertension.

In the study of Radwan *et al.*, he cited that the challenges faced by the older adults in terms of physical aspect are the limitation in access to nutritional needs such as disruption of food supply, malnutrition, consuming non-healthy foods, and impairing of the immunity system against viruses. also, according to Goethals et al., this time of pandemic has decreased the elderly's mobility and ability to do physical activities. The Centers for Disease Control and Prevention (CDC) emphasized that the COVID-19 pandemic has had a major effect on people's lives. Many are facing challenges that can be stressful, overwhelming, and cause strong emotions. Public health actions, such as social distancing, are necessary to reduce the spread of COVID-19, but they can make people feel isolated, lonely, stressed, and anxious. Learning to cope with stress healthily will make the people, and the elderly become more resilient.

Hence, this study aims to determine the challenges and resiliency of older adults amidst the COVID 19 pandemic with an end view of proposing holistic management. Specifically, it would like to know the demographic profile of the older adults in terms of sex, marital status, living arrangement, and sources of income. This study would also like to find out the challenges, coping strategies, and resilience of the respondents amidst to COVID-19 pandemic in terms of physical, psychological, social, and spiritual aspects. The target respondents are the Southern Luzon State University retirees, with ages ranging from 60-80 years old. Inclusion criteria include older adults living in Lucban, Quezon for 5 years and above, and exclusion criteria are those who have physical and mental health problems that would hinder them in participating in the study. The researchers will use a sequential explanatory mixed-method research design. For the first phase of data gathering, a self-constructed questionnaire regarding the respondents' demographic profile, challenges, and coping mechanisms experienced by the older adults in terms of physical, psychological, social, and spiritual will be administered. In the second phase, a focused grouped discussion will be facilitated to further analyze and interpret the data gathered regarding challenges, coping mechanisms, and resiliency of the respondents amidst the COVID 19 Pandemic.

# Midwives' spiritual care competency: Basis for spirituality workplace

Prof. Roylan A. Almacén, Dr. Medel O. Cabalsa, & Sandra D. Elma, PhD

## EXECUTIVE SUMMARY

Spirituality is identified as the essence of being a human. Further, healthcare professionals consider it as a central component in health and healing. Specifically, spiritual care, which includes caring from the human spirit, is seen as essential to midwifery practice. These considerations clearly illustrate the importance of spiritual care competency in achieving workplace spirituality leading to job satisfaction.

The researchers shall use the descriptive-survey and descriptive-correlational. They will use the former to assess the demographic profile of the respondents, while they will use the latter to identify significant relationships between the demographic profile and the level of midwives' spiritual care competency. In addition, they will apply an inductive approach to afford an in-depth understanding of the phenomenon. The researchers considered these method designs appropriate for the study because they will measure midwives' spiritual care competency level at the workplace.

The researchers will adopt the distributed questionnaires from "The Spiritual Care Competence Scale" of Hellman et al. (2015). The team will utilize it to ensure the reliability and validity of the questionnaires to be used. The contents of the questionnaires will be subjected to validation for reliability purposes. The questionnaires will have two sections:

- Section "A" covers the demographic profile of the respondents.
- Section "B" deals with the midwives' spiritual care competency level

The proponents will structure the instrument according to the modified Likert fashion, on a 5-point scale, ranging from "Highly Competent" (HC), "Competent" (C), through "Moderately Competent" (MC), "Slightly Competent" (SC), to "Not Competent" (NC). They will request the respondents to answer based on their degree of agreement with the statements contained in the instrument.

The output of this study will serve as a basis for Spirituality Workplace Plan that will be very useful to achieve full job satisfaction among midwives.

# Online learning and mental health of college students during the Covid-19 pandemic

Helene D. Daya, PhD

## EXECUTIVE SUMMARY

The academic community took a step forward to help stop the spread of COVID-19. With the government implementation of the community quarantine, academic institutions suspended classes immediately and shifted to the new method of teaching that requires a flexible teaching and learning arrangement. (CHED Memo No. 4, s. 2020).

The Southern Luzon State University promulgated guidelines on the implementation of flexible learning for AY 2020 – 2021. To comply, it suspended face-to-face classes exhausted offline, online, and hybrid learning delivery modalities. Most faculty members utilized Learning Management System (LMS) using Google Classroom for students who opted for an online learning delivery mode. The nature of online learning is undeniably different from the conventional classroom; hence, students and faculty often experience problems that may threaten their well-being.

Although online learning protects the physical health of the students, it is not as effective as conventional learning (Adnan, M. & Anwar, K., 2020). Aside from the lack of money and equipment, students also experience delayed response times, lack of instructor interaction, and lack of class socialization. These may affect their mental health and, consequently, their performance resulting in reduced energy, mental ability, concentration, dependability, and optimism. Furthermore, recent studies about the effects of increased computer screen exposure reveal alarming outcomes, including low mood, insomnia, acute stress, and signs of mild depression (Keasberry et al., 2020). In addition, due to varying economic circumstances, some students may have trouble acquiring desktop computers or laptops, as well as availing of reliable internet connections (Sahu; Lederman, 2020).

Various perspectives could help understand the variables of this study. First is the Cognitive Behavioral Theory of Aaron T. Beck (1960) that contends that how people interpret their interactions affects their mental, behavioral, and physiological responses (Beck, S. 2010). In this study, the shift from face-to-face classes to online learning may bring unhealthy reactions to different situations experienced while doing online classes. It may cause students to experience anxiety, stress, and even depression. Jack Mezirow's (1981) transformative learning theory is another lens that will be used to understand the premises of this paper. This learning theory is based on the perception of a "disorienting task," also known as cognitive dissonance, or the discomfort that comes from finding that your perceived view of the world does not match current facts. Lastly, this research is anchored on David Kolb's (1984) theory of experiential learning, which acknowledges that experience is the beginning of a new understanding and that it provides the impetus for the emergence of new ideas. Educators will benefit from the perplexing dilemmas generated by COVID-19 by reflecting on what they are learning during this period about their teaching and their students' learning, motivation, and resilience. It will also help in theorizing what works and what does not, while consciously experimenting to find new ways to involve and educate students (Hart, 2020).

# **Techno-Psych Serv: Technology-Based Psychological Services applied to selected male and female adolescents and adults with special needs**

Marissa C. Esperal, PhD & Prof. Michelle V. Ramirez

## **EXECUTIVE SUMMARY**

This proposed research is a project component of the proposed Mental Health LINK (Leaders in Innovation, Nurturance, and Knowledge) Hub (MHLH) envisioned to be established in the Southern Luzon State University. The Techno-Psych Serv Project entails a one-group pretest-posttest experimental design to determine the relevance, effectiveness, and applicability of the technology-based mode of delivering psychological services. It shall involve fifty (50) SLSU student volunteer participants composed of 25 males and 25 females, and fifty (50) non-SLSU volunteer participants consisting of 25 males and 25 females. Proponents shall ensure that the participation shall be strictly voluntary and that there will be strict compliance with ethical policies. For 12 months, the team shall conduct online psychological services such as online interviews, online assessments, online counseling, and online interventions or online psychotherapy. It shall use available online psychological measures for assessment. The pre-test and post-test assessment results shall be the main data sources that the team will analyze through paired t-test of difference. The study's findings shall be the basis for the creation of a Manual of Operations for the implementation of technology-based psychological services. The Manual will serve as a guide for the Local Government Units (LGUs) who may be interested to adopt the same "Techno-Psych Serv" project in their respective localities and municipalities.



# Readiness of SLSU Catanauan students in the licensure examination

Prof. Francis B. Laguardia, Prof. Jhona A. Ilao,  
Aileen V. Elarco, PhD, & Prof. Katrina Camille P. Mendones

## EXECUTIVE SUMMARY

This mixed-method research will intend to determine the strengths and weaknesses of the BEED and BSA graduating students of SLSU Catanauan in the review sessions. The study will also reveal any significant difference between student respondents' pretest and posttest results in the conduct of the licensure examination review program. The results will greatly contribute to the annual review program of SLSU Catanauan for its graduating students from BEED and BSA programs. It shall also serve as SLSU Catanauan's future extension project for those who will take a national licensure examination.

The participants in the interview will be the BEED and BSA 4th year students of the SLSU Catanauan, three faculty members, and six parents. During the intensive licensure examination review program, the 35 BEED students and 30 BSA students will participate. They will become the respondents in both pretest and posttest. The team shall prepare interview guides intended to determine the strengths and weaknesses of the BEED and BSA students in the licensure examination review program. They shall also create pretest/posttest to determine the content knowledge performance of the 4th year BEED and BSA students before and after the licensure examination review program. The program will include Saturday online review classes combined with peer review sessions, online/offline games, and mock examinations. A reviewer kit saved in a flash drive and print materials will be given to 35 BEED students and 30 BSA students as support to Saturday review classes, since internet connectivity is weak in Catanauan, Quezon and other nearby municipalities. A posttest will be given on the last day of the program. Interviews with the students, faculty, and parents will be conducted even during and after the program. In addition, a focus group discussion with the students' parents will be initiated even during and after the program. The interviews will support the quantitative results of the study.



## Behind the tattered fishing net: A story of resilience of fishing community

Prof. Jay-Ar C. Recto, Prof. Esmeraldo G. Arat,  
Prof. Cherry C. Favor, & Dr. Rebecca D. Jason

### EXECUTIVE SUMMARY

The demonstration of adaptation to changing ecological or social-economic drivers, the resilience, and the ability of the system to absorb and adapt to disturbances while maintaining the same structure are always observed in socio-ecological systems. These tendencies became more evident when the world experienced the most challenging and trying time when Covid-19 Virus became a pandemic.

The fisherfolks, who belong to the most marginalized groups of people with low socio-economic status, are already experiencing unstable fisheries, destructive fishing practices, degraded water resources, and a decline in the fish catch (Purushoth, 2019). When the pandemic came, they were loaded with an additional burden as the fishing industry was among the primarily hit by the phenomenon (Smith, *et al.*, 2020). The Philippines suffered as more than half of its population lives in agricultural and fishing areas.

During this period of change and instability, resilient systems will withstand the adverse event and continue with the inclusion of adaptive mechanisms. The non-resilient systems undergo terrible change or an irreversible shift to another state. Understanding fishers' ability to adjust to change, such as the disturbances caused by the COVID-19 pandemic, will help direct recovery efforts for fisheries in times of crisis and with the rapidly evolving conditions. It shall also foster fishery resilience which will help them withstand potential crises in the future (Folke, *et al.*, 2003).

Hence, this study aims to investigate the direct socio-economic effect of the COVID-19 pandemic on commercial fisherfolks in Quezon Province. The team shall determine the fishing communities' adaptation strategies and responses to the crisis brought by the pandemic. To have a deeper understanding of the impacts of the COVID-19 pandemic on the commercial fishing industry, an in-depth interview/survey will be employed using the face-to-face approach. The team will disseminate the survey to the fisherfolks in Ragay Gulf through the Registered Peoples Organization of Industry and the organizations' active members and officers.

# Acceptance of COVID-19 Vaccine: A challenge in Tagkawayan Community

Dr. Melanie D. Salumbides, Prof. Cristina D. Nicolas,  
Prof. Wilma L. Comia, & Prof. Glenda P. Flores

## EXECUTIVE SUMMARY

The proposed research survey shall focus on the challenges of COVID -19 vaccination in the community of Tagkawayan, Quezon. The respondents consist of frontliners, LGU officials and employees, teachers (DepEd and SLSU –JGE), students (18years old and above), selected NGO officials/staff, and senior citizens. The study will utilize social media platforms; hence, the respondents must have access to social media.

The online questionnaire/personal interview and follow-up text survey shall be utilized to gather the necessary data and information. The collected data will suggest the portion of the population willing to get the COVID-19 vaccine, the probability of vaccine uptake, and the chance to return to pre-pandemic conditions.

The doubts of the respondents will dictate the topics for discussion to allay fear and clear uncertainties and misconceptions about COVID-19 vaccinations. The information on the mechanics of COVID-19 vaccination roll-out to be elaborated by the in-charged Local Health Unit of the registration of perceived recipients, as well as the administration of the vaccine.

The documentation of the health condition of the vaccinated recipients will represent the immediate and consequential effects of the vaccine and determine the level of implementation of the Vaccination Program. The study shall suggest for intensive dissemination and wide coverage of information–education campaigns.

# Level of stress, coping mechanism and job satisfaction of SLSU instructors amidst Covid 19 pandemic

Prof. Ethel Queddeng-Quesea, Prof. Marites P. De Leon, &  
Prof. Jericho L. Marasigan

## EXECUTIVE SUMMARY

In response to the pandemic, Southern Luzon State University (SLSU) provides guidelines in conducting flexible learning for the academic year 2020-2021. The guidelines include the alternative ways of instructional delivery from traditional or face-to-face teaching to online classroom teaching. Yet, the transition process entails challenges.

According to Kupferschmidt, (2020), teachers are more prone to stress. Even Filipino teachers, in general, are optimistic in life despite the challenges brought by the COVID-19 outbreak; however, they are still susceptible to anxieties since the pandemic is still ongoing worldwide (Talidong & Toquero, 2020).

Meanwhile, it is undeniably true that work productivity is achieved when there is job satisfaction (Cho *et al.*, 2015). In the initial interview of the researchers regarding the satellite campus faculty members' job satisfaction, some expressed ambivalent feelings of being happy with the mindset of just complying with their job, while others feel a bit exploited.

Relative thereto, the ultimate aim of this research is to serve as an eye-opener for everyone, particularly the administrators, that faculty members are also facing hard times during this new normal situation. This study shall focus on describing and analyzing the level of stress, coping mechanisms, and job satisfaction of the SLSU satellite campuses faculty members during the COVID-19 pandemic. The locale of the study would be the eight satellite campuses of SLSU scattered around Quezon Provinces.

Specifically, this proposed study sought to know the following: the demographic profile of the respondents in terms of their age, gender, satellite campus they work, rank or position in the school, other designation or assignment/ETL, and the place of residence; the level of stress, coping mechanism, and job satisfaction of the respondents; and, the differences on the level of stress, coping strategies or mechanisms used and level of job satisfaction according to their demographic profile as intervening variables. Finally, the team will ascertain the significant relationship of stress level, coping strategies or mechanisms, and job satisfaction

# Virtual Agency In-House Review of Completed Research

September 13-14, 2021 | Via ZOOM Video Conference



In time with the 2021 Science and Technology Week Celebration of SLSU, the ORS spearheaded the 2<sup>nd</sup> Virtual Agency In-House Review (AIHR) of Completed Research Projects via Zoom last September 13-14, 2021.

Dr. Merdelyn Caasi-Lit, the Vice Chancellor for Research and Extension of the University of the Philippines - Los Banos, graced the occasion with her presence as keynote speaker in the AIHR of completed research. The invited AIHR evaluators were:

- **Dr. Cleofas R. Cervancia**, Professor Emeritus, Institute of Biological Sciences, University of the Philippines, Los Banos
- **Dr. Josefina T. Dizon**, Professor 12, College of Public Affairs and Development, University of the Philippines, Los Banos

- **A/Prof. Christian Paul P. dela Cruz**, Director for Research and Development, Laguna State Polytechnic University

The following completed research projects were presented:

## Research Category

1. The Roles of Internal Locus of Control and Grit in Managing the Academic Stress of Senior High School Students in Southern Luzon State University (*Karen Anne C. Quing & Jomar Saif P. Baudin*) **(Best Paper)**
2. Multi-Site Evaluation of the *Katatagan Kontra Droga sa Komunidad* as a Jail-Based Drug Rehabilitation Program in Quezon Province (*Gino A. Cabrera & Noreen P. Echague*) **(2<sup>nd</sup> Best Paper)**



3. Cities and Municipalities Competitive-ness Index Survey (*Jed Frank S. Marqueses and Charly R. Lacorte*) **(3<sup>rd</sup> Best Paper)**
4. The SLSU Catanauan Journey of Development (*Aileen V. Elarco, Manuel P. delos Santos, & Francis B. Laguardia*)
5. *Kulayan mo ang Puso ko sa Panahon ng Pandemya*: Drawing Themes as Indicators of Socio-Emotional Wellbeing of Selected Children Under Home Quarantine Program in Quezon Province (*Marissa C. Esperal, Ma. Elna R. Cosejo, Mari Jane A. Lee, & Rene P. Zubieto*)
6. Predictive Cross-Sectional Analysis of Mental Health Threats and Copings of University Students and Personnel During Covid-19 Pandemic (*Helene D. Daya & Gino A. Cabrera*)
7. Errors in Senior High School Students' Composition: Basis for a Textbook in Purposive Communication (*Nicanor L. Guinto, Shiela M. Manzanilla, & Brian D. Villaverde*)
8. Development of Coffee Table Book on the Lives and Culture of the Indigenous People on the Region IVA CALABARZON (*Shiela M. Manzanilla, Mari Jane A. Lee, et al.*)

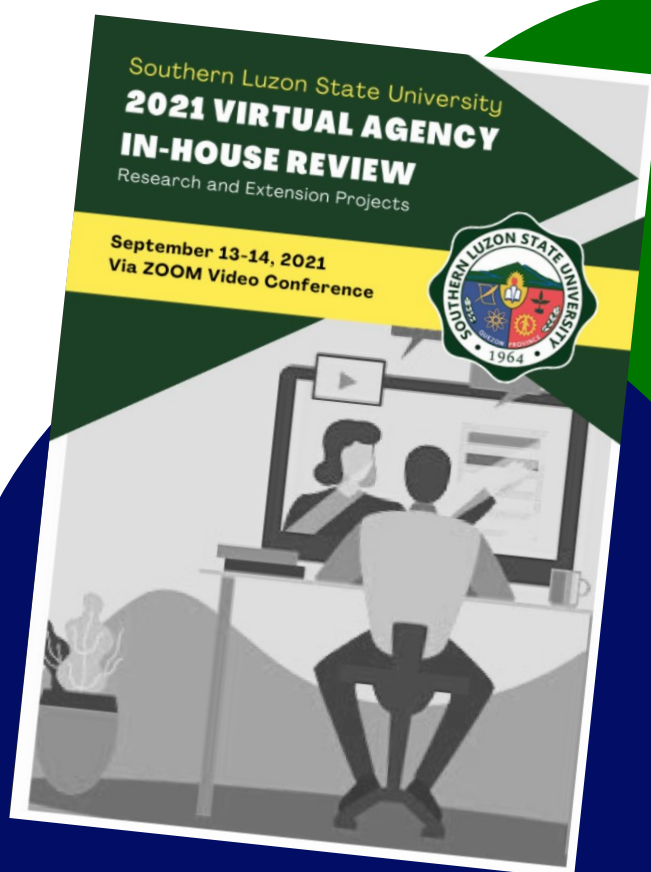
#### Development Category

1. Refinement of Mussel Transplantation techniques for Developing Mussel Farming Industry in Quezon (*Victoria M. Noble, Sherrlyn U. Magdame, & Jofren R. Moreno*) **(Best Paper)**
2. Promotion of Mud Crab Fattening and Crab Meat Technologies (*Maripaz T.*

*Lamos, Reydante P. Gordula, & Nemia C. Pelayo*) **(2<sup>nd</sup> Best Paper)**

3. Market Exploration and Commercialization of Native Pig Products in Selected Municipalities in Quezon Province (*Felix B. Lamos, Veronica Aurea A. Rufo, Editha D. Buenaventura, & Melanie D. Salumbides*) **(3<sup>rd</sup> Best Paper)**
4. Improvement and Commercialization of Developed Herbal Products of SLSU-JGE Tagkawayan, Quezon (*Dorris N. Gatus, Cristina D. Nicolas, Melanie D. Salumbides, Nemia C. Pelayo*)

Beside the certificates, the research teams that were recognized as best papers received PhP 5,000, PhP 3,000, and PhP 2,000, respectively, in each category.



# The roles of internal locus of control and grit in managing the academic stress of Senior High School students in Southern Luzon State University

Prof. Karen Ann C. Quing & Prof. Jomar Saif P. Baudin

## ABSTRACT

Any individual who transitions through different stages of life inevitably experience stress, especially adolescents who undergo physiological and psychological changes. This is the stage where they have to make relevant decisions including the academic courses they have to take for their future career. The overwhelming expectations that they are experiencing from their family, teachers, and society to excel academically have been shown to cause distress among adolescents. It is, therefore, becomes imperative to study possible protective factors to formulate efficient intervention techniques. Two of the most studied constructs that have been linked to academic success are the internal locus of control and grit. However, available studies investigating these two constructs with academic stress especially among Filipino adolescents have remained scarce. The current study explored the roles of internal locus of control and grit in managing academic stress. A sample of 165 senior high school students from Southern Luzon State University-Main Campus was involved in this study. Results showed that both grit and internal locus of control are negatively correlated with academic stress. It was also shown that grit is positively associated with an internal locus of control although one is not a predictor of another.

**Keywords:** *adolescence, academic stress, grit, internal locus of control*

# Multi-site evaluation of the *Katatagan Kontra Droga sa Komunidad* as a jail-based drug rehabilitation program in Quezon Province

Prof. Gino A. Cabrera & Prof. Noreen P. Echague

## ABSTRACT

The Katatagan Kontra Drogas a Komunidad (KKDK), originally developed as a community-based relapse prevention program was piloted in five jails in Quezon province as a jail-based drug rehabilitation program. To gauge its effectiveness, a program evaluation was carried out through the use of the Context, Input, Process, and Product (CIPP) model that was designed in a mixed-methods – sequential explanatory research. This was done by collecting quantitative data which were substantiated with qualitative data inferred through thematic content analysis. The paired-sample t-test revealed that the program has significantly lowered the completers' drug dependence and improved their situational confidence, well-being, and coping behaviors. Both the KKDK completers and the jail personnel were involved in the program evaluation. Jail officers gave favorable impressions about the staff and training but argued to lessen their workload in order for them to focus on running the program. They have also seen the need to provide conducive venue and allocate more budget to ensure better program implementation. Meanwhile, completers perceived that all objectives of the program were attained through the supporting and enabling elements of the program that include its design and approach, the controlled environment in jails, social support, and the legal appreciation of the program that motivated them to fully participate in the program. Taken all together, these factors constitute an effective rehabilitation as evident in the improved assessment scores, behavioral and attitudinal change, absence of cravings and relapse, goal-directed behaviors, successful community reintegration, and family reconciliation. With the forecasted barriers to effective implementation, recommendations on policy formulation on including an after-care component for continuous follow-up and livelihood trainings, employment referrals, industry linkages to assure the completers of a secured income are hereby offered.

**Keywords:** *addiction, CIPP model, drug use prevention and control, jail-based, rehabilitation, program evaluation, substance abuse disorder*

# Analysis of Cities and Municipalities Competitiveness Index of Quezon Province: A basis for a data-driven governance

Prof. Jed Frank S. Marqueses & Prof. Charly R. Lacorte

## ABSTRACT

Tracking the competitiveness of a certain city and municipality will provide a relevant information on their present status and development. This will help a Local Government Unit (LGU) to be aware of its condition compared to other cities and municipalities. 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 socioeconomic advancement and a data-driven governance.

**Keywords:** *CMCI, competitiveness index, governance, Quezon Province*

# The Southern Luzon State University (SLSU)-Catanauan Journey of Development

Dr. Aileen V. Elarco, Prof. Francis B. Laguardia, & Dr. Manuel P. delos Santos

## ABSTRACT

The Southern Luzon State University- Catanauan is the rising pillar in Bondoc Peninsula, Quezon Province, Philippines. On its tenth year of the journey, this phenomenological qualitative study explored the observations and experiences of the purposively selected various stakeholders in the development of SLSU Catanauan based on the prescribed Key Result Areas (KRAs) in measuring SUCs institutional performance, such as quality and relevance of instruction, research capability and output, services to the community, and management of resources. For the individual interview, the participants were 4 SLSU administrative council members, 2 former campus directors, 2 LGU officials and 2 seasoned faculty members of the campus. On the other hand, the participants for the focus group discussions (FGD) were 4 students, 3 alumni, 3 parents, and 2 Catanauan residents. Open-ended interview guides were utilized for data collection and the thematic analysis approach was utilized in data analysis. Four themes were extracted and these are imperfect, obstructed, resilient, and promising campus. It included ten subthemes and 41 codes. Results obtained led to the creation of a validated 5-year timeline roadmap as a planning tool of SLSU Catanauan towards its direction that is in harmony to the vision of the University. Commitment, willpower, and collaboration of various stakeholders, which include the government units, sponsors, alumni, SLSU administration, campus personnel, students, parents, and project beneficiaries may cooperate in the realization of the goals geared towards the attainment of the University vision. It may require early planning in everything- in instruction, research, extension, and management of resources. For future researchers, mixed method research may be conducted concerning the results of the current study.

**Keywords:** *development, journey of development, KRAs, SLSU journey, Southern Luzon State University-Catanauan, SUCs institutional performance*

# *Kulayan mo ang Puso ko sa Panahon ng Pandemya:* **Drawing themes as indicators of socio-emotional status of selected children under home quarantine**

Dr. Marissa C. Esperal, Dr. Ma. Elna R. Cosejo,  
Dr. Mari Jane A. Lee, & Prof. Rene P. Zubieto

## **ABSTRACT**

The COVID-19 outbreak changed the lives of people in all countries affected by it because it limited social mobility and suspended most economic, social, cultural, educational and spiritual activities. It's not just the youth and adult population who were adversely affected; children, who belong to the most vulnerable population also suffered the impact of home quarantine. This study endeavored to determine the drawing themes as indicators of socio-emotional well-being of 174 children under the home quarantine in three barangays in the Poblacion of Lucban, Quezon. The Participatory Action Research Method was applied in gathering qualitative data in the study. Upon compliance with the research ethics standards and health protocols imposed by the government during the period of pandemic, the participation of children through the assistance of parents were made possible. Drawing materials and food packs were distributed to the children through their parents who granted approval for their participation. Each child participant was given written instructions to draw anything they want on bond papers (one drawing per day). The drawing activities took place for a period of 6 weeks. After retrieval of the data, analysis of the drawing themes was done by the researchers and consultant experts. Findings revealed that the most dominant drawing themes of children under home quarantine are past time activities (both indoor and outdoor), nature, human beings (including self and family), house, school, food, personal belongings, animals, dreams and aspirations and health concerns. Significant differences were noted in the drawing themes and expressed feelings of children in terms of age and sex. It was concluded that drawings themes can be used as a barometer of children's socio-emotional well-being because the children's drawings revealed their thoughts, feelings and inner experiences; thus, serving as their socio-emotional outlet. Several recommendations were forwarded to identified entities, including the endorsement of the proposed Manual of Art Activities for Children Under Home Quarantine for presentation and review of both internal and external experts in the field.

**Keywords:** *drawing themes, socio-emotional status, children, home quarantine*



# Predictive cross-sectional analysis of mental health threats and copings of university students and personnel during Covid-19 Pandemic

Dr. Helene D. Daya & Prof. Gino A. Cabrera

## ABSTRACT

Higher education institutions were one of the affected Philippine society sectors when the enhanced community quarantine took effect due to the COVID-19 pandemic. Anxieties surrounding the COVID-19 pandemic renewed interest in the topic of student and faculty mental health. To address the growing concern over mental health of these groups require attention and careful consideration to be resolved. This study explored a new psychological construct – Coronavirus anxiety and attempted to identify its predictors. Standardized psychological tests were performed, which include the Coronavirus Anxiety Scale (CAS), Perceived Stress Scale (PSS), Financial Anxiety Scale (FAS), Mental Health Continuum Short Form (MHC-SF), and Filipino Coping Strategies Scale (FCSS). The respondent population involved 728 state university students and 342 state university faculty including both teaching and non-teaching positions. Measurements were taken through an online surveying platform, Google Docs, and the data was handled with strict compliance to the Philippine Data Privacy Act of 2012. Analysis of data gathered involved descriptive statistics, descriptive cross-sectional analysis, and one-way Analysis of Variance (ANOVA). Data showed that both student and faculty respondents rarely experienced Coronavirus anxiety at mean of 2.16 (SD=0.89) and mean of 1.54 (SD=0.51). They also have low levels of perceived stress and financial anxiety, manifest a good sense of mental health or well-being. Religiosity is the most common coping style among state university students and faculty with student mean of 3.36 (SD=0.79) and faculty mean of 3.51 (SD=0.59), and both never experienced substance abuse with student mean of 1.28 (SD=0.40) and faculty mean of 1.36 (SD=0.32). Regression analysis revealed that social support decreases the chance of experiencing Coronavirus anxiety the most with student Unstandardized Beta (728) = .167 ( $p < .0$ ) and faculty Unstandardized Beta (342) = 0.119 ( $p < 0.05$ ), while perceived stress predicted an increase in Coronavirus anxiety the most with student Unstandardized Beta (728) = .443 ( $p < 0.01$ ) and faculty Unstandardized Beta (342) = 0.168 ( $p = 0.01$ ). Recommendations for workplace policies and programs based on the results of the study are put forth.

**Keywords:** *anxiety, coping strategies, COVID-19, perceived stress, well-being*

# Errors in Senior High School students' composition: Basis for a textbook in purposive communication

Dr. Nicanor L. Guinto, Dr. Shiela M. Manzanilla, & Brian D. Villaverde

## ABSTRACT

This study sought to determine the writing difficulties of prospective College students in the Philippines as gauge for a localized enhancement of the centralized instructional design for Purposive Communication. Purposive Communication is a new mandated course in the general education curriculum for undergraduate degrees in the Philippines that adheres to the principles of English for Specific Purposes, and which tends to focus less on the teaching of linguistic structures and more on the social functions of language use. Guided by S.P. Corder's (1971/1974) error analysis framework, 93 essays written by Senior High School students in a province in the country were analyzed and coded. Results show that students tend to be more mindful about mechanical and morpho-syntactic elements in their essay, except for tenses. In terms of discourse development, students seem to find difficulty in sentence construction and paragraphing. The compositions are typically influenced by norms in spoken interaction, which can be an indication that their listening and viewing skills are more developed than their reading skills. Discourse development should therefore be taught explicitly with specific attention to content, paragraphing, coherence, registers, and intertextual influences when writing essays. Thus, these topics are hereby suggested to be integrated into the standard course outline for Purposive Communication.

**Keywords:** *purposive communication, error analysis, discourse development, instructional design*

## Development of Coffee Table Book on the lives and culture of indigenous people in Region IVA CALABARZON

Dr. Milo O. Placino, Dr. Mari Jane A. Lee, Dr. Shiela M. Manzanilla, Prof. Mary Jane S. Camarador, Prof. Khristalyn V. Friginal, Dr. Nicanor L. Guinto, Prof. Princess Catherine L. Pabellano, Prof. Judeimar Ungriano, & Prof. Brian D. Villaverde

### ABSTRACT

The proposed Development of a Coffee Table Book on the Indigenous People in Region IVA CALABARZON sought to document the lives and culture of the Indigenous People in the region in the form of a coffee table book. Specifically, it sought to identify the indigenous people in Region IV-A CALABARZON in terms of (a) Ethnic minority group, (b) Location, and (c) identified ancestral land domain. Furthermore, it aimed to document the lives of the indigenous people through photography, and to feature the socio-economic practices of the indigenous people. The researchers conducted IKSP validation activity and requested for a Certificate of Precondition as a requirement of the NCIP for conducting research on indigenous communities. The researchers utilized participant observation, focus interview and focus group discussion as well as photo documentation to collect data from the indigenous people in Region IVA. Upon completion of data gathering stage, the researchers proceeded to the layouting of the coffee table book. Based on the result and findings of the research, the following are concluded: (1) there are three groups of indigenous people (Agta, Dumagat and Remontados) in Region IVA (CALABARZON), which are distributed in the identified ancestral domain in Quezon, Batangas and Rizal; (2) The indigenous people in Region IVA live still practice their culture and traditions, but some of them already adopted the modern way of living; (3) The socio-economic practices of the indigenous people in Region IVA is relative to the topographical features of their ancestral domain. Based on conclusions, it is recommended to have the coffee table book submitted for evaluation of the indigenous people before its publication. A research focused on the language of the indigenous people as well as the transfer of indigenous knowledge to the young IPs may be conducted in the future. Researchers in the field of Linguistics may consider producing a book that documents the native language of the Agta, Remontados and Dumagats. Future researchers may explore indigenous communities in other regions. The government, through the NCIP, may continue supporting research on the preservation of indigenous knowledge.

**Keywords:** *Agta, Dumagat and Remontados; coffee table book, indigenous people*

# Refinement of mussel transplantation techniques for developing mussel farming industry in Quezon Province

Dr. Victoria M. Noble, Prof. Jofren R. Moreno, & Ms. Sherrlyn U. Magdame,

## ABSTRACT

This experimental study was conducted to test mussel transplantation protocols in establishing reproductive population of mussel in Tagkawayan, Quezon. Mussel brood-stocks purchased from Bacoor City, Cavite obtained a negative result of Paralytic Shellfish Poisoning (PSP) Test from BFAR-National Fisheries Laboratory Division prior to transporting and stocking to the culture site. During transport, highest survival rate ( $97 \pm 3.06\%$ ) of mussel was observed in control group (no water, ice and manila paper). Growth performance of mussel reached the final lengths of  $5.11 \pm 0.85$  cm,  $5.18 \pm 0.88$  cm and  $5.15 \pm 0.87$  cm. highest shell growth was observed during the first month of culture with a growth rates of  $0.806 \pm 0.59$  cm (200 individuals/cage),  $0.821 \pm 0.60$  cm (400 individuals/cage) and  $0.779 \pm 0.57$  cm (800 individuals/cage). As for the total weight gained, mussel stocks had final weights of  $11.24 \pm 0.84$  grams,  $11.76 \pm 4.98$  grams and  $11.41 \pm 4.76$  grams. Rope-grown mussels achieved higher Condition Index (CI) ( $55 \pm 0.05$ ) as compared with those cultured using plastic cages ( $35 \pm 0.03$ ). Condition indices of mussels were also determined in both methods of culture at different moon phases which are the Full Moon, New Moon and First Quarter. High CI was noted during Full Moon and New Moon while low CI was exhibited at First Quarter. In determination of the cost and return of the culture, a fixed asset of P21, 995.00 was obtained in a single long line using plastic cages and fixed assets cost of P14, 345.00 using suspended ropes. Revenue was higher in long line using plastic cages rather than using suspended ropes. The total operating costs per long line using plastic cages was P405, 688.00 and using suspended ropes was P664, 618.00. For the annual net income using plastic cages, return on investment (ROI) for stocking densities of 5,000, 6,000, 7,000 and 8,000 were as follows; 0.21%, 2.08%, 3.95% and 5.81% respectively, while the return on asset (ROA) were: 0.25%, 2.46%, 4.67% and 6.88% respectively and return on sales got 0.86%, 6.94%, 11.28% and 14.54% respectively. Lower densities were not enough to cover the cost of operation thus; increasing the level of production and lowering the operation cost provide positive returns through achieving economies of scale.

**Keywords:** *mussel transplantation techniques, growth performance, reproductive population, suspended ropes, return on investment*

# Promotion of mud crab fattening and crab meat processing technologies

Prof. Maripaz T. Lamos, Prof. Reydante P. Gordula, & Prof. Nemía C. Pelayo

## ABSTRACT

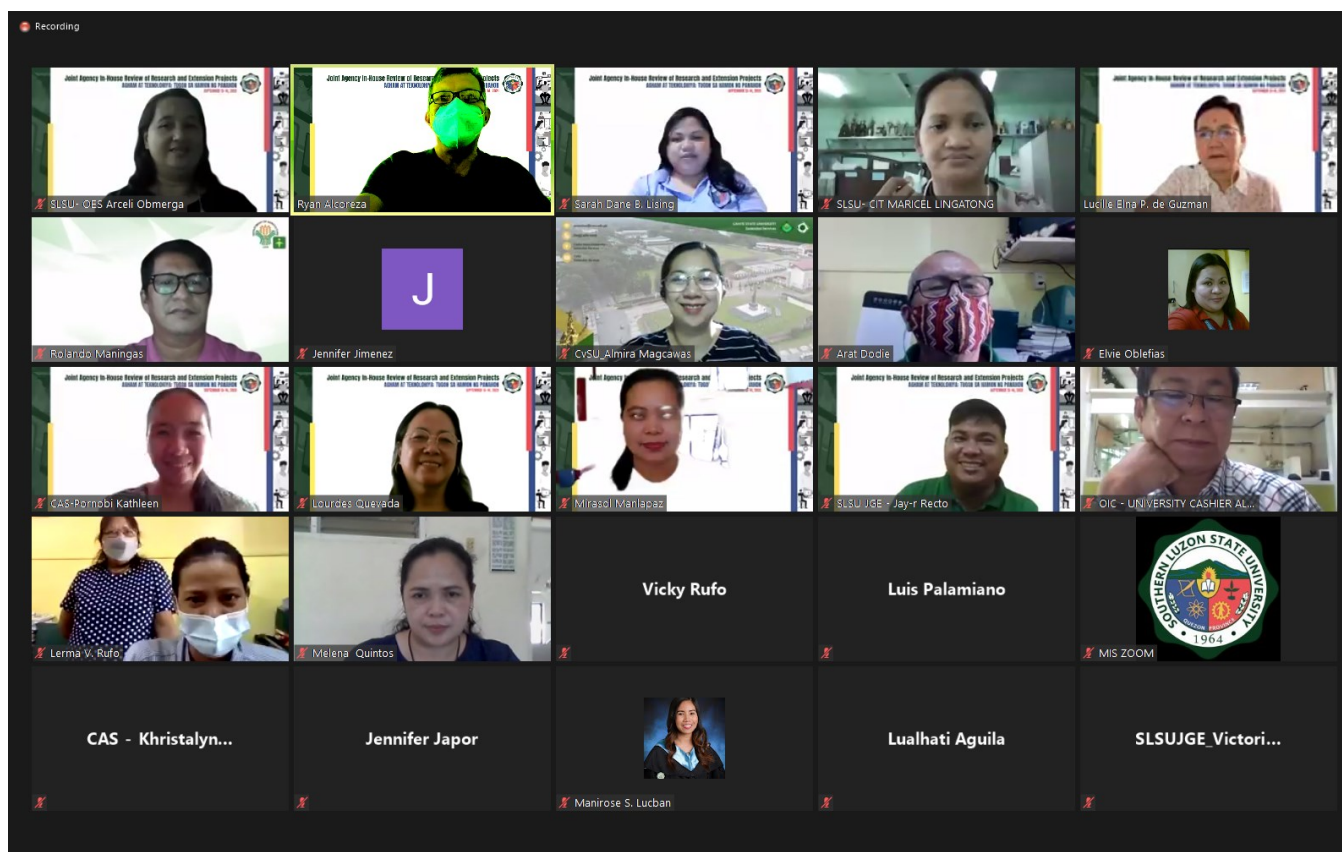
The study on "Promotion of Mud Crab Fattening and Crab Meat Processing Technologies" aimed to determine the financial viability of mud crab fattening in bamboo cages and virgin plastics, level of acceptability, shelf-life and nutrition facts of selected crab meat products. Similarly, it intended to disseminate the crab meat fattening and crab meat processing technologies. Interview, observation recording and measuring tools and evaluation checklist were used to gather the pertinent data to satisfy the objectives, frequency, percentage, mean and formula were used to interpret the data. It was found out that crab fattening in bamboo cages and virgin plastics proved to be financially viable and profitable based in ROI. Quality of pond waters greatly influenced the survival rate and consequently the ROI. Selected crab meat products emerged as either highly Acceptable or Moderately Acceptable. The products remained fit for human consumption after two days to six-months depending on the temperature and packaging they were kept. Likewise, these products contain conservable amount of calories, cholesterol sodium, carbohydrates and protein. Aside from bamboo cages and virgin plastics, any discarded plastic container with holes can be used to hold lean crabs for fattening. Water quality amount be maintained at its desirable depth, salinity, temperature and oxygen level.

**Keywords:** *financial viability, mud crab, ROI, shelf life*



# Virtual Agency In-House Review of Completed and Ongoing Extension Projects

September 14, 2021 | Via ZOOM Video Conference



Simultaneous with the AIHR of the Office of Research Services, the Office of Extension Services conducted its AIHR of completed and ongoing extension projects via Zoom last September 13-14, 2021.

The invited AIHR evaluators for all the sessions were:

- **Dr. Almira G. Magcawas**,  
Director of Extension Services,  
Cavite State University
- **Dr. Lucille Elna P. de Guzman**,  
University Researcher II, University of  
the Philippines—Los Banos

- **Dr. Rolando V. Maningas**, Information  
Office III, Chief, Information Services,  
Agricultural Training Institute IVA

The following completed extension projects were presented:

1. Bulati ay Iwasan, Kalusugan ay Ingatan  
(*Kathleen O. Pornobi & Shiela B. Abion*)  
**(Best Extension Paper)**
2. Kaalamang Teknikal, Tulong  
Panghanapbuhay (*Maricel O. Lingatong,  
Ricaryl Catherine P. Cruz, & Reynaldo V  
Danganan*) **(2<sup>nd</sup> Best Extension Paper)**



3. Sa Kabuti ang Kita ay Doble (*Sarah Dane B. Lising, Alex S. Peras, & Elvie B. Oblefias*)  
**(3<sup>rd</sup> Best Extension Paper)**

4. TULONG: Technology Utilization for Learning Opportunity on the Go (*Esmeraldo G. Arat, Lerma R. Villaronte, & Jay-Ar C. Recto*)

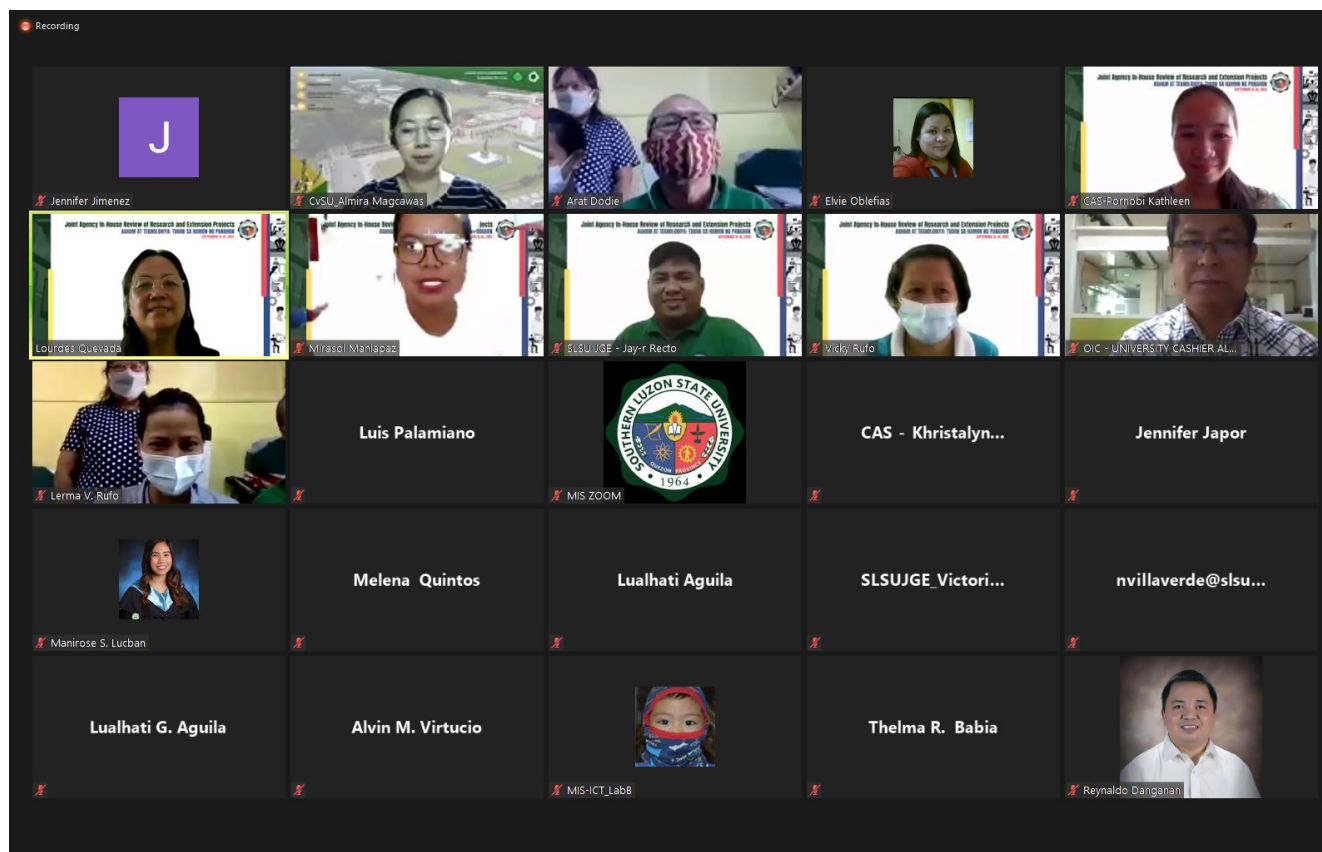
*Gonzalvo, Veronica Aurea A. Rufo, & Vivien Hope G. Resuma)*

2. Si Juana sa Panahon ng Pandemya (*Mirasol B. Manlapaz, Evangeline B. Mecija, & Jennifer Edytha E. Japor*)

The implementation of the ongoing projects hereunder were also reviewed:

1. P3K Project: Pigkabuhayan, Pigkalusugan, Pigkikitaan (*Catherine R.*

The winning teams were recognized during the closing ceremony of the Science and Technology Week where they received Certificate of Recognition. On the other hand, all of the presenters received certificates in appreciation of their commendable efforts.



# **Bulati ay Iwasan, Kalusugan ay Ingatan**

## Educational Campaign for Elementary Students in Barangay Nagsinamo, Lucban, Quezon

Dr. Leonisa O. Bernardo, Prof. Kathleen O. Pornobi, & Prof. Shiela B. Obion

### **ABSTRACT**

Intestinal parasites are one of the major public health concerns among school-aged children. This project generally aims to spread awareness to the community about parasitic infection and its causes and prevention through an educational campaign. Among the strategies performed to accomplish this goal are the assessment of intestinal parasitic infections among children and the intervention programs including a seminar workshop and distribution of Educational campaign materials. Upon completion of the project, data showed that there are a significant number of infected children in Brgy. Nagsinamo. Parents, teachers, and children were participative in the seminar workshop and thus showed an increase in knowledge about parasitic infections, based on the pre- and post-test given to them. Further, the storybook is one of the major highlights of the project wherein it has been distributed to the Paaralang Elementarya ng Nagsinamo. It also has been copyrighted by the National Library of the Philippines (ISBN 978-971-0187-40-9). With the outcome of the project, it is still recommended to continue the project to other areas of Lucban, Quezon to extend the knowledge especially to the most vulnerable part of the community.

# **Kaalamang Teknikal, Tulong Panghanapbuhay**

## **Skills Training for Balik-Lucban Beneficiaries**

Prof. Maricel O. Lingatong, Dr. Ricaryl Catherine P. Cruz, &  
Prof. Reynaldo V. Danganan

### **ABSTRACT**

Kaalamang Teknikal, Tulong Panghanapbuhay is a skills training for Balik-Lucban beneficiaries, a one year completed extension project conducted by the College of Industrial Technology in coordination with Extension Services and Local Government Unit of Lucban, Quezon, it was composed of different skills training with the required number of hours; 32 hours in computer hardware servicing, 40 hours in dressmaking, 32 hours in-home appliance servicing, and 40 hours in food processing. The general objectives of this project are to provide knowledge and skills among the returnees in our town that the learned skills can be applied as an additional source of income and it can be a source of working opportunities for them. The Local Government Unit of Lucban, Quezon requested assistance from the University to sustained the life of returnees in our town by providing livelihood training for them. The collaborating agency agreed on terms and conditions in the Memorandum of Agreement and formally signed. The training was conducted inside the University premises because of the availability of laboratory facilities, tools, and equipment. The specialized faculty of Industrial Technology served as trainer and facilitator of the said four activities. Based on the virtual interview conducted last month among the participants, they learned a lot from the training and it was greatly helped in their daily lives because instead of paying manpower to fix their home appliances, computer, and their clothes, they have already known to that. Other adopters said that they are trying to applied the learned skills as a source of family income.

# P3K: PIGkabuhayan, PIGkalusugan, PIGkaunlaran sa Kanayunan

Prof. Sarah Dane B. Lising, Prof. Alex S Peras, & Prof. Elvie B. Oblefias,

## EXECUTIVE SUMMARY

Native pigs are characterized by their distinct black color, some breed with white, red, or black spots. Raised usually in fa-flung areas or even in backyard farming wherein there is no permanent housing structures. Some are free-ranged or tied up under the tree. Both sow and bore have an average weight of 40 to 60kg. An average of 5 to 8 piglets are produced per farrowing. Advantage of native pig farming is the low capital requirement. Easy to raise and are highly adaptable to local conditions. Can survive by making use of local feed source (sakma, tricantera, malungay, indigofera, rensonii, etc.) and simple management practices. Their characteristic taste appeals to consumers, adds to marketability (Santiago, Rene C, 2016)

Barangay Aliji Tagkawayan, Quezon is almost five (5) kilometers away from the SLSU Judge Guillermo Eleazar. And majority of farmers were engaged in producing crops like rice, coconut and other plantation crops for their living. Some were involved in livestock farming, one of which is raising commercial breed pf pig, in which they meet several problems such that; a) Housing facility; b) Poor waste disposal management; c) High cost of capital; and, d) Diseases

In view of this the Extension Team of BSBA/BSFAS faculty come up with the project "P3K: Pigkabuhayan, Pigkalusugan, Piglaunlaran sa Kanayunan" intended to support the farmers of this barangay for additional income of their families and as well introduced the natural method of rearing native pigs for healthy and sustainable environment. Coordination with the Municipal Agriculture Office of Tagkawayan, Quezon and Provincial Veterinary Office of Lucena City, were also involved for the technical assistance extended to the farmer-corporators. A pair of one female and one male piglets from different parent source were given to the farmer corporator. And in return they will also give same number after producing piglets to be given to another group of farmer corporator. The target number of family corporators were fifteen until the end of the project. The team will continuously monitor the farmers and give technical assistance for the sustainability and continuous source of raw materials.

# Si Juana sa Panahon ng Pandemya

Prof. Mirasol B. Manlapaz, Prof. Jennifer Edytha Aa. Japor, &  
Prof. Evangeline B. Mecija

## EXECUTIVE SUMMARY

This program focuses on strengthening efforts to improve the health and sustainable livelihood of Solo Parent members. This extension program aimed to elevate the capacity of mothers in terms of health awareness and management of health and capability to have a sustainable livelihood in this time of pandemic. It aimed to create and implement sustainable strategies and activities on COVID-19 and to be responsive on their health care and needs, especially mental health; second, to acquire knowledge and skills on basic nursing care such as vital signs taking, and lastly, to improve livelihood capability and to start small scale business during this pandemic.

The program was conducted for the benefit and welfare of the Solo Parent members of Lucban, Quezon. With Southern Luzon State University (SLSU) Office of Extension Services (OES) as the funding agency, and Local Government of Lucban (LGU) MGAD as the collaborating agency, five (5) projects out of eight (8) were done. The planned activities were conducted every Saturday with the Solo Parent Leaders/ Key Persons for the attendance and participation. The first activity was a seminar/ lecture-discussion on Mental health, and it became a webinar on November 2020 due to IATF restrictions on COVID-19. The succeeding plans for the next projects were re-scheduled because of the same reason. After four months the second activity was implemented on March 2021, 3rd, 4th, and 5th project on July 2021. Different resource speakers and trainers came from SLSU-GS, SLSU-CAM, SLSU GAD Focal Person, and SLSU-CABHA. Every activity guaranteed a fruitful outcome by offering new knowledge and skills as needed by the participants, and it monitored and evaluated to ensure quality output.

