



Linking the Coconut Farmers in the Philippines to Better Market Opportunities through Community-based Participatory Action Research

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Abstract

This research aimed to empower eight selected coconut farmers by building an economically sustainable and resilient community. Specifically, it focused on: 1. Improve coconut farmers' economic conditions through value-added coconut products; 2. Link them with other stakeholders for producing and commercializing coconut products; 3. Design the sustainability plan in partnership with the stakeholders. The researcher employed each content, which is (1) Needs and Support Assessment. (2) the capacity-building activities on Training on Developing Entrepreneurial skills among Coconut Farmers of Burias, Training on "Bukayo" Making, Business Model Canvas, and One-on-One Consultation, Entrepreneurial Mind Setting and Intro to Business Planning and Seminar-workshop in Marketing. (3) Innovative Marketing Strategies; establish a presence on the online platform, specifically digital marketing, by creating a Facebook page that serves as a platform in which their coconut food products bring a better income for coconut farmers. The Coconut 2.0 research initiated by the researcher positively affected the quality of coconut farmers' lives, thus building a sustainable and resilient community of coconut farmers. A memorandum of agreement was bound between the stakeholders and coconut farmers based on the sustainability plan. These documents were presented to the coconut farmers during the turning-over activity of the research.

Keywords: digital marketing, coconut processing, business model, partnership

Introduction

The Philippines has natural resources, especially coconut trees, that could be used in raw materials and by-products sold here and in the international market. The industry's total coconut production of copra is 2.258 MMT and 14.735 billion for nuts. Unfortunately, it has made a downtrend in production since 2013 up to date due to calamities. Coconut oil, however, is still traded more frequently than copra. (Moreno et al., 2020). Through its Research Development and Extension Office Capiz State University has produced a research-based and matured technology on virgin coconut oil. It is ready to be transferred to the coconut farmer-beneficiaries through extension

services. The Extension Office of the University seeks to systematize its impact, particularly in improving the standards of living of the clients in contributing toward poverty alleviation in the communities and nation-building as the research beneficiaries of the research will have more excellent opportunities (e.g., product developments and promotions) that will address the increasing demands of coconut products in the market. This will positively affect the prices of these products; hence, more income opportunities for the farmers result in improved quality of life. The situation is seen in Mambusao in the province of Capiz. Poverty among families engaged in

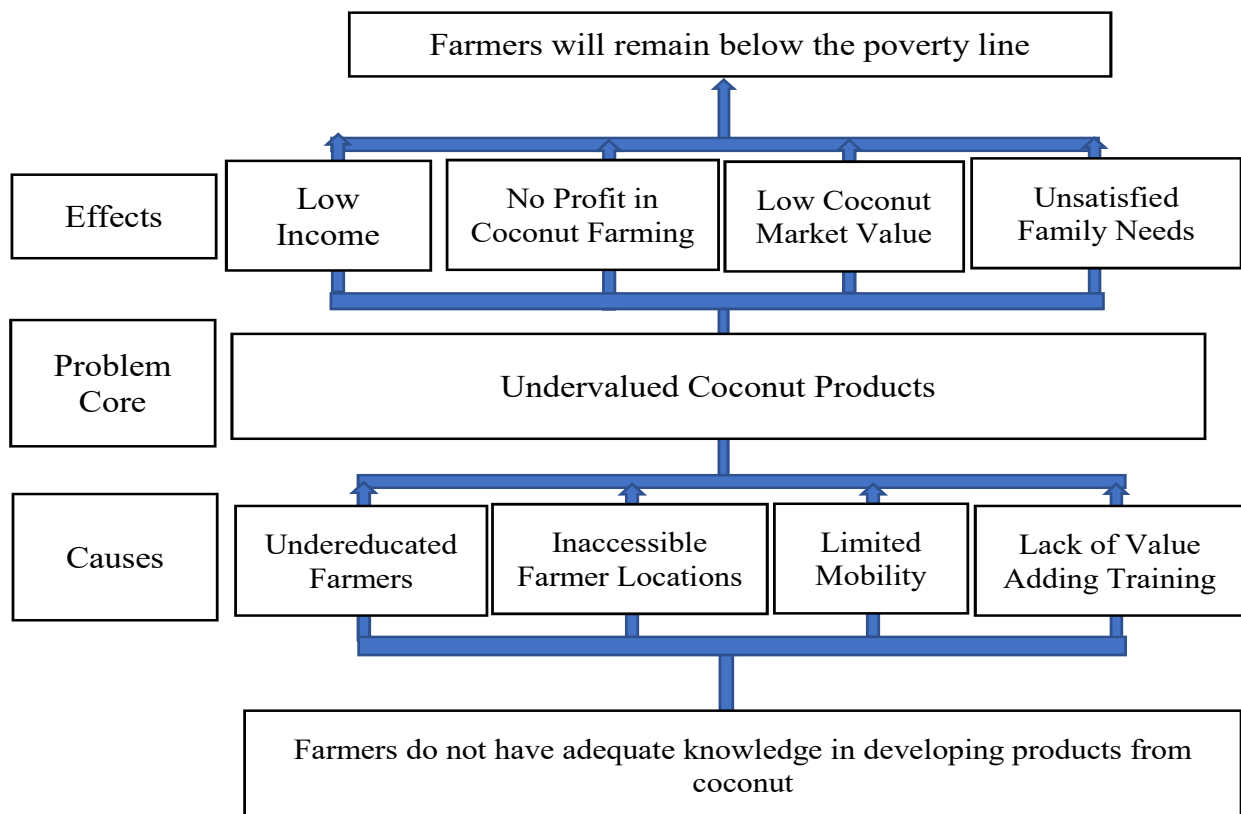
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coconut farming was evident in one of its barangays. The hardworking and industrious coconut farmers of Burias have been toiling on their farmland for generations with a slight improvement in their standard of living. It is disheartening that while the coconut farmers are mired in poverty, the large industries amassed wealth for centuries. At this point, the proponent changed and tilted the balance of the distribution of wealth. The proponent had the necessary knowledge and technologies to bridge the gap that kept the farmer's income low and insufficient for their basic needs. The proponent capacitated the coconut farmers and their families and provided the platform to tap the high-value markets for coconuts and their products.

Materials and Methods

The researcher initially conducted a problem identification technique called the "Problem Tree" Analysis to identify the problem. Based on the initial report, the major problem is that farmers do not have adequate knowl-

edge in developing products out of coconut. The researcher employed the qualitative research design to maximize the data gathered in this research. The qualitative research design was used in this research because it is more subjective and involves examining the economic aspects of the coconut farmers as the subject of the research activity. Through the qualitative research design, the researcher described the participants' behavior, experiences, and practices using the tools such as focus group discussions (FGDs). The criteria for selecting the participants are focus group discussion: 1) They must be coconut farmers; 2) They must have been the residents of Brgy. Burias within five years; 3) They must have produced coconut products. For the key informant interviews (KII) (Myers, 2019). The researcher immediately gathered feedback from the research participants through personal and actual encounters. The maximum number of participants in the FGD was eight coconut farmers who complied with the criteria set by the researcher. The key infor-



The Figure 1

mants had the following requirements: 1) They must have completed the capacity-building activity; 2) They must have signed the commitment to be engaged with the stakeholders; 3) They must have earned income from the coconut products.

Moreover, the action research method was employed as qualitative research. Ivankova and Wingo (2018) stated that action research is perceived as a method for professional self-improvement that needs to be embarked upon by an individual or small group, based on problem-solving. This approach entails a structured process of data gathering. Bergoth et al. (2023) reiterated the statement of Burns's action research embodies a dynamic, cyclical process that simultaneously facilitates action (such as change or enhancement) and study (like comprehension or gaining knowledge). The individuals who are the focus of the action research experience the impact of the change. The commitment is pursued through action research by allowing the understanding of the change to be widely spread. Specifically, the researcher employed Community-based participatory action research (CBPAR) in this study as applied by Bicular (2022) during his intervention with the Ati community. It is an approach based on the notion that the researcher will work with the coconut farmers.

Planning Phase. Based on the problems presented by the farmers regarding the undervalued coconut products, the researcher designed capacity-building activities among the coconut farmers to enhance their skills and knowledge in producing more quality and market-driven coconut products. The researcher organized the research team of the Research, Extension, RDE Centers, and Intellectual Property Management Offices. The research team transferred matured technologies on virgin coconut oil product packaging, linked to stakeholders for commercialization and marketing, and established the Coconut Farmers Organization of Burias.

Action Phase. The researcher conducted the following activities to implement the research in this phase.

a. Identification of the coconut farmers in Barangay Burias. The researcher will

map and profile the coconut farmers in Barangay Burias, Mambusao, Capiz. Secondary data will be validated. The data will be the basis for the researcher to identify the qualified beneficiaries of the planned intervention.

b. Research Orientation. The researcher met with the identified coconut farmer-beneficiaries to fully observe the IATF health protocols—the meeting aimed to present the research to the beneficiaries and the activities in the specified venue. Moreover, LGU and the Municipal Coconut Authority Office were invited to enlighten the participants on their possible participation in implementing the research. During this phase, the researcher validated the needs assessment.

c. Capacity-building Activities. Based on the identified needs of the coconut farmers of Barangay Burias, the researcher conducted the technology transfer using the CAPSU research-based and matured technology on coconut products. CAPSU trained the coconut farmers to produce their coconut products with the help of the CAPSU researchers/inventors. The training was held at the laboratory facility of CAPSU Burias. Secondly, the participants were trained in packaging their produced coconut products through the help of CAPSU IPMO and the College of Management and Business Administration of CAPSU Burias.

d. Linkage with the Stakeholders. The researcher invited the provincial Tourism Office and the Philippine Coconut Authority. The stakeholders were foreseen to play essential roles in training the coconut farmers from the production to the commercialization of the desired coconut products. Further, the researcher forged a memorandum of agreement between the stakeholders and coconut farmers to bind the possible interventions and sustainability of the research towards the production and commercialization of the coconut products.

Analysis Phase. In this phase, the researcher conducted a stakeholder meeting to present the research's accomplishments. Moreover, the researcher solicited the commitment of the major stakeholders in designing and implementing the sustainability plan.

Conclusion Phase. In this phase, the researcher reported the interventions' results, outcomes, and impacts. In this phase, the researcher recommended that the coconut farmers lay out the results to improve the intervention and the research sustainability plan for the beneficiaries and other stakeholders. Research closures and turnover of the sustainability plan to the coconut farmers served as the culminating activities.

Results and Discussions

The research entered its actualization phase by initiating a stakeholder meeting with its beneficiaries at Brgy. Burias, Mambusao, Capiz on November 14, 2021. During the stakeholder's meeting, the researcher enumerated and explained the activities to the beneficiaries farmers who were identified as participants of the research. The beneficiaries were enticed by the researcher's presentation when he showed the technologies and recent research that they could use during the study. They were also positive when they were informed that the presented technologies would be given to them after the Coconut 2.0 research. To successfully meet the objectives, the researcher conducted a series of FGDs with the Coconut Farmers of Burias to assess the community's needs for better market opportunities. The farmers shared their daily experiences and hardships during the meeting, and they stated that they were not earning a substantial income from the local markets. It was hard for them to rely solely on selling raw and unprocessed resources because it did not cost much. Some of the farmers openly expressed their eagerness to participate in the research, and some pledged to stick with the research until it ended. The researcher explained the benefits and profits the research would bring the coconut farmers; it will also help them develop new and innovative production outputs in the long term.

Challenges Encountered by the Coconut Farmers on the supply and value chain of the coconut products of farmers.

The researcher viewed the challenges of Coconut Farmers' supply and value chain of the coconut products in terms of their needs: their livelihood, other sources of income, and the

need to market their copra, young and mature. Most of the key informants (4) uttered that the value chain of the Coconut products like copra and young and matured coconut seeds affected their income because of the prices in the market. The participants were primarily female. Four (4) female participants are mostly housewives and, at the same time, coconut farmers. Two (2) female participants are full-time coconut farmers. The two (2) male participants are also coconut farmers. Four (4) out of eight (8) informants stated that selling their farm products affected their primary source of income because of the pandemic

	Codes	Key Informants
Value chain of Coconut produced/products	...hard to transport the coconut seeds ...unstable prices of fresh and matured Coconut ...bought by the intermediaries at a lesser price. ...buy at the scanty price in the public market.	P1, P2, P2, P3, P4, P5, P6, P7, P8
Lack of other livelihoods in the community	...lack of knowledge for value-added coconut products ...no additional source of income because of the pandemic	P1, P2, P6, P7, P8

**Table 1
Needs and Challenges Encountered by the Coconut Farmers of Burias.**

Value chain of coconut produced/products. There was a problem with the coconut products in terms of the value chain. First, the farmers needed more vehicles to transport the coconut to the market. Next, they have to carry the nuts from the farm and rent a motorcycle. Then, the Coco-farmers will have no choice but to sell their copra or other coconut products at a lesser price instead of creating value-added products from raw coconut like candies, coconut oil, and others. When farmers trade in their coconut products at the public market, middlemen buy them at a very low price. Moreover, the fluctuation of the coconut prices is also one of the problems of the coconut farmers that has a significant negative effect on their income. " Kabudlayun guid ta amon kahimtangan karyang may pandemic. Abi mo Sir, guinagutos namon ang bukid nga nakasiki eang ag guinapas-an namon ang mga niyog sa sambato ka sako sa amon abaga. Tapos maarkila pa kami et salakyan nga motor para dal-on direrta sa tienda sa ban-

wa. Perde guid tana. Inde kabatas ang kakapoy namon. Pag abot sa banwa, baklon pa et kabaratuhon et mga negosyante.” (In this time of pandemic, our situations are very hard. You know what Sir, we tend to walk from the mountain in a barefoot while we carrying a sack full of coconut seeds. Then we usually rent a motorcycle to carry the goods direct to the town’s public market.) - P4
“Kung mag ulan et mabaskog, nagabaha daun sa alagyan bala Sir , maiwat guid tana. Hamak mo, kung kis-a amon guid guina suong ang baha para eang matabok ang amon copras ag ibalikya sa may talipapa ag idto ibaligya sa mga negosyante nga nagahulat kanamon ag baklon eang et barato. Ang rason nanda, nagadipende sa baligyaanay et copra sa Iloilo. Ibaligya unlang namon ay kung inde, wa tamon et kwarta ibakal et sud an nga kan-on namon et amon pamilya.” (Everytime there are heavy rains, flood water overflows the road. It is hard for us, but we tend to cross the flood water just sell our copra in a lesser price to the middlemen in the market. The reason behind of the middlemen in terms of the copra price is based on the market price from Iloilo City. We will sell the product or else we have no money to buy our viand for our family.) – P1
The sacrifices of the Coconut farmers despite the danger in transporting the Coconut produced and /or products leads them to sell to the business intermediaries at a low cost. Lack of other livelihoods in the community. There are abundant resources of coconut trees in the community, but one of the needs is a lack of knowledge about value-added coconut products that could support them. Likewise, coconut farmers have no additional source of income because of the pandemic. One of the informants said: “Ang kinahanglan namon bala Sir dore nga guinapanumdom namon kung pano mapaunwad ang amon kabuhi ag madugangan ang amon kita ay waay-waay guid tana kami makarya sa tunga et pandemya. Mahina guid ta ang baligyaanay et bisan produkto et niyog. Guina panumdom namon kung ano nga negosyo ang amon pagkakitaan.” (Our need is how to uplift our lives and may add to our resources because we are so poor at this time of pandemic. The meager price of the coconut products in the market will lead us to think a livelihood.) -P2
“ Makarya nga pandemic, kabudlay magbaligya

et produkto nga makadugang et amon kita. Waay waay guid kami Sir. May daon eang yaan nga magtudlo kanamon kung paano mapaduro ang produksyon et amon pananum ag kung paano magnegosyo, pasalamatan guid namon. (In this time of pandemic, it’s hard to sell our products. We are lack of financial resources. If only there will be persons teach us how to increase our farm produce and how to engage in business.) -P6

Capability-building Activities were conducted on the Coconut farmers.

The Coconut 2.0 Research conducted several capability-building activities on the Coconut farmers.

Innovative Marketing Strategies Linkages to PTCAO.

The researcher coordinated with the Provincial Tourism and Cultural Affairs Office and conversed with its Department Head, Mr. Alfonsus Tesoro, to aid the beneficiaries in marketing their products. Mr. Tesoro openly welcomed the researcher and offered the beneficiaries to display their goods in the “Maninda Kita” that occurs once a month in the Roxas City Provincial Park. This opportunity allowed the beneficiaries to showcase their products to the public. The program of the PTCAO retroactively occurs once a month to showcase the hard-earned crafts, goods, food, and effects of the Capizeños. The **PTCAO** also gave the Coconut 2.0 beneficiaries a permanent place inside the Provincial Park wherein they could permanently display/store their goods at their “Specialty Shop.” The products, harvests, specialties, and crafts of the Capizeños from the different municipalities are permanently available to tourists and locals. Mr. Tesoro assured the researcher that the PTCAO would welcome all of the future programs and endeavors of the Coconut 2.0 beneficiaries as they continue to pursue more livelihood training and multiple production chains based on the primary raw resources of Burias. On January 31, 2022, the Coconut Food and Beverages Processors of Burias (CFBPB) was invited to display their “Panutsa” (Coconut candy) in the “Maninda Kita,” a once-a-month market day of the province, selling Capiznon products like agricultural and fisheries products, handicrafts, and food coming from the different municipalities.

Date	Training and Activities Conducted	Objectives	Number of Trainees
December 11, 2021	Training on Developing Entrepreneurial Skills among Coconut Farmers of Burias	<p>Train the participants on Entrepreneurial traits and characteristics.</p> <p>Train the participants on Business Management and Strategies.</p> <p>Train the participants on Effective Packaging.</p> <p>Train the participants on Creating a Market</p>	50
December 18, 2021	Training on Coconut Making (Flavored Bukayo), Launching of Coconut Food and Beverage Processors of Burias Production Site, and Oath Taking of the Association	<p>Bring the CAPSU technologies to the Coconut Farmers of Barangay Burias.</p> <p>Demonstrate the cooking of the flavored "Bukayo" or "Panutsa" for an additional source of livelihood for the Coconut Farmers Association.</p> <p>Conduct oath-taking of the newly established Coconut Food and Beverage Processors of Burias.</p> <p>Launch Coconut Food and Beverage Processors of Burias Production Site</p>	8
December 27, 2021	Business Model Canvas and One-on-One Consultation	<p>To assist and help incubatees in the formulation of their respective business plans</p> <p>To address issues and concerns of incubatees</p>	12
January 15, 2022	Entrepreneurial Mind Setting and Intro to Business Planning	To develop an entrepreneurial mindset among the incubatees and assist in terms of business development	12
January 29, 2022	Seminar-Workshop on Marketing	<p>To provide marketing strategies</p> <p>To improve current practices and learn techniques from Faculty Experts.</p>	12

Table 2
Summary of the Capability-Building Activities Conducted to the Coconut 2.0 Beneficiaries



The “Panutsa” (coconut candy) had the potential to become marketable and sellable in the open market due to income that the participants gained while selling this product to the people. The CAPSU Research, Development, and Extension Office with its Agri-Business Incubator and Agri-Aqua Technology Business Incubator located at CAPSU Burias and CAPSU Dayao, played a big part in the implementation of the research and in nurturing the knowledge and skills of the research’s beneficiaries by adopting them as incubates and making the series training available to them. On December 22, 2021, the researcher held a consultative meeting with Mr. Russel C. Villanueva (CAPSU Agri-Business Incubator Manager) and Ms. Princess Palawan (CAPSU Agri-Aqua Technology Business Incubator Manager) at CAPSU Dayao. The researcher inquired if the research’s beneficiaries could become incubates of the business incubators that CAPSU offers. The meeting produced an excellent packaging idea for the “Bukayo” and “Panutsa” that the beneficiaries had created. The ABI and ATBI contributed significantly to the coconut beneficiaries because it is an Agricultural-based technology development hub. They can provide the beneficiaries with additional packaging, production, and other profitable capability-building activities.

Establishing a Presence on the Online Platform

Planning and Preparation. The researcher considered the digital platform in showcasing the Coconut 2.0 research to increase awareness for our farmers in the highlands. Establishing this online presence will make it easier for the beneficiaries to showcase their products online and entice people to try them out.

Before creating the Coconut 2.0 Facebook page, the researcher asked for permission from the beneficiaries in compliance with the Data Privacy Act of 2012, which requires their consent for the fair use of the data/multimedia that they provided for the benefit of their adopted research. After the preliminaries, the researcher requested the aid of the Research, Development, and Extension Office staff in crafting the page. The RDE staff then provided the researcher with a baseline page tailored to the Coconut 2.0 content, updates, and marketing efforts. Ms. Karen Cullen B. Flores volunteered to become the marketing icon of the Coconut 2.0 research, with the help of a few graphic artists from the Agri-Aqua Technology Business Incubator. The banner that the Researcher and the RDE Team created had a tagline of “With the Coconut Farm, comes the hearty coconut fun!” and a banner statement of “Linking the Coconut Farmers to Better Market Opportunities.” After the preparations were complete, the Coconut 2.0 website went live.

Website Implementation. When the website went live on the digital platform, the researcher gradually added the activities, training, and overall progress of the Coconut 2.0 research. The researcher transparently showed the endeavors of the research to the people, and the researcher’s efforts were made public. All in all, the posts made from December 13, 2021, to January 18, 2022, reached 17,834 people all over social media, 2,350 engagements, 799 reactions/likes, 107 comments, 57 shares, and 19,142 impressions. The digital platform (Facebook) has significantly contributed to the promotion and selling their product. The coconut candies were sold out because of the digital marketing efforts and enhanced branding.

Particular		Capital	Sales	Net Income
First marketing	digital	Php 3,000.00	Php 4,150.00	Php 1,150.00
Second marketing	digital	Php 1,100.00	Php 2,350.00	Php 1,250.00
Third marketing	digital	Php 2,639.00	Php 5,250.00	Php 2,611.00

Table 3
Capital and net income of the Panutsa (Coconut candy) during the digital marketing activities

Conclusions and Recommendations

Conclusions

This study is fundamentally aimed at empowering the coconut farmers in barangay Burias. It achieves this through providing comprehensive training, facilitating the creation of diverse production chains, applying researched-based technologies to their livelihoods, helping them adjust to market changes, teaching them a range of marketing and business planning skills, and establishing a network to connect them to resources provided by various governmental and non-governmental agencies. Training and seminars are set up to enhance the farmers' production capacity, thereby offering them a variety of opportunities and choices when it comes to creating and selling their products. Needs and concerns of the farmers were identified by the researcher and used as a foundation for this study, which involved needs analysis through one-on-one and group discussions, establishing connections, creating an organization, implementing training, and documenting and analyzing the study's impact on the farmers' lives. In order to better understand the needs of the farmers, the researcher utilized a problem tree analysis to create a "roadmap" to guide the queries made with the coconut farmer-beneficiaries. Various obstacles faced by the farmers were identified through focus group discussions. These included logistical challenges such as fuel price increases and transportation issues, which hindered their ability to market their products. The farmers also struggled with fluctuating raw coconut prices, which posed a significant risk due to their instability and often low values. The community had a shortage of alternative livelihood options beyond coconut farming, and there was also a distinct lack of financial resources needed to kick-start additional production chains and businesses. Taking into account these identified challenges, the researcher met with the RDE Office to present the structure, strategies, and timeframe of the research. Inputs from the VP for RDE, RDE Directors, Center Directors, and RDE staff guided the researcher in forming connections, initiating training series, and acquiring tools and equipment for the beneficiaries. As a result, successful partnerships were forged with agencies such as the Philippine Coconut Authority, LGU Burias, PT-

CAO, CAPSU RDE, CAPSU ATBI, and CAPSU ABI. Through the collaboration of these agencies and partners, the beneficiaries received the full benefits aimed at by the study. Implementation of key study components, namely Needs and Support Assessment, entrepreneurial and production trainings, linkages establishment, and online platform creation, led to a positive transformation in their livelihoods. This expansion of their outlook regarding marketing and production chains, along with newfound awareness of governmental programs and opportunities, prepared them to further dedicate themselves to their trade.

Recommendations

The strengths of the Coconut 2.0 project that led to its successful implementation stemmed from the effective strategic partnerships that the researcher meticulously planned both prior to and during the project's operational stage. The primary goal of this project was to provide sustainable, vital, and productive livelihoods for the coconut farmers of Burias. In order to achieve significant outcomes with minimal budgetary support, the strategies implemented in this study could be beneficial for those ready to enhance their livelihood through expanding networks, and fostering an entrepreneurial mindset for production, innovation, and marketing, among other things. Start-up organizations such as farmers or local producers can benefit from the strategies and training used in this study. They can also collaborate with government and non-government agencies, and with the business incubators of CAPSU that support the efforts of the Coconut 2.0 beneficiaries. In this way, they can establish a solid foundation for their newly formed agri/aqua-business organizations. This project can guide universities on how to integrate multidisciplinary approaches into a project aimed at a specific group, in this case, the coconut farmers of Brgy. Burias. The implementation of this project significantly enhanced the researcher's management skills. The researcher effectively established connections with various government and non-government agencies, developed numerous capacity-building training sessions, improved efficiency in communicating with external organizations, and made critical decisions. Additionally, the researcher fully

utilized available resources and gained an understanding of the circumstances and culture of the coconut farmers in Barangay Burias. All in all, this endeavor was a noble and fulfilling task that positively impacted people's lives. To sustain the implementation of the Coconut 2.0 Project for the Coconut farmers of Burias, the Scholar forged a partnership with the major stakeholders such as the CAPSU, the Provincial Government of Capiz through its Provincial Tourism Office the Philippine Coconut Authority-Provincial Office, and LGU of Mambusao, Capiz. To ensure the sustainability of the Coconut 2.0 research, the researcher recommends the following:

ABI Incubatees and Extension Community Adapters

The Coconut Food and Beverage Processors of Burias Association will continuously assist the ABI in packaging and linking to other target markets. Moreover, CAPSU Burias, College of Management, and the Bachelor of Science in Agriculture and Biosystems Engineering will always support their community association adapters.

Continuous Training-workshop activities

The Agri-Business Incubator will train the Association through related training workshops to capacitate and enhance their products. Likewise, the College of Management will continuously empower the Association by providing related training to improve operations.

Assigning the Additional Facebook Page Administrator

The researcher may identify an additional Facebook Page Administrator. The CAPSU RDE Personnel will train the Coconut Food and Beverages Processors of Burias Association to manipulate the social media site to post by correctly selling their products on Facebook.

Regular Monitoring

The Capiz State University -RDE, through the Agri-Business Incubator from the CAPSU Burias Campus, approved the two association members as qualified Incubatees. The ABI will regularly monitor the Association regarding its products' operation and potential target market. The Provincial Tourism and Cultural Affairs Office will

continuously top the Coconut Association to sell their products in the "Maninda Kita," a monthly provincial market day highlighting small and medium enterprise farmers and entrepreneurs. The Philippine Coconut Authority Provincial Office will regularly monitor the newly established Association and the Processing facilities. Likewise, through its extension office the College of Management will monitor the business operation as part of its community adapters.

Replication of the Coconut 2.0 Research

CAPSU may replicate the research with the other Coconut farmers in the Municipality of Mambusao. There are potential Barangays to train other Coconut Farmers about some technologies and coconut food products based on their priority and needs.

The CFBPB will Establish a Coconut Product Display Booth at the Provincial Park Souvenir store.

The researcher coordinated with the Provincial Tourism Office about the proposed establishment of a coconut product display booth at the Provincial Park Souvenir store. The Association will ensure accessibility for a broader market of their Coconut Products in the Province of Capiz and local and international tourists visiting the area.

A continuous partnership between the PCA Provincial Office and the CFBP of Burias.

The PCA committed to upholding the interest of the Association by giving whatever assistance they needed to continue the research operation.

Repair and Enhancement of the Production Site

The Barangay Burias committed to repairing the production site to improve the condition of the physical structure to protect the facilities. They recommended the processing site of the Association.

Additional Coconut-based products

The CAPSU College of Management and the Bachelor of Food Technology has an array of coconut-based research-based products that CAPSU may introduce to the Association for additional product lines.

Backward Integration of the Coconut Farming

Objective	Planned Activities	Persons in-charge	Intended Output
To maximize the long-term sustainability and continued implementation of the Coconut 2.0 research.	ABI Incubatees and Extension Community Adapters	ABI Manager, College of Management Extension Office	Assist the Association in packaging and linking the Coconut based products to possible markets
	Continuous Training-workshop activities	Researcher, ABI Manager, College of Management Extension Office, Training Director for RDE Training and Development Office	Highly capacitated Coconut Association to empower them to become competitive entrepreneurs.
	Assigning the Additional Facebook Page Administrator	Researcher, CAPSU RDE Personnel,	Competent in serving as administrator of the Research Facebook Page
	Regular Research Monitoring	Researcher, RDE-ABI, College of Management Extension Office, RDE Training and Development Office, PTCAO, PCA, and the Office of Barangay Burias.	Empowered Association
	Replication of the Coconut 2.0 Research	Researcher, CAPSU RDE	Replication of the Research to other Coconut Farmers in the Municipality of Mambusao
	The CFBPB will Establish a Coconut Product Display Booth at the Provincial Park Souvenir store.	Researcher, CAPSU RDE and PTCAO	Established Coconut Product Display Booth
	The continuous partnership between the PCA Provincial Office and the CFBP of Burias	Researcher, PCA and CFBPB and Barangay Burias	Continuous effort in giving assistance
	Repair and Enhancement of the Production Site	Researcher, LGU Mambusao-Office of Barangay Burias.	Enhanced Production Product Site
	Additional Coconut-based products	Researcher, College of Management and	The different coconut products could help
	the Bachelor of Food Technology	them increase the income of the Association	
Backward Integration of the Coconut Farming	Researcher, CAPSU RDE, and College of Agriculture	Trains the farmers to introduce technologies, practices, and farm management.	
Integration of Coconut-based machine	Researcher, CAPSU RDE and Bachelor of Science in Agriculture and Biosystems Engineering	Improve the operation in terms of time and cost-efficient. Increase the production of the products and the members of the Association.	
Uphold Positive Stakeholder Relationships among the major stakeholders	Researcher, CAPSU RDE, and other significant stakeholders.	Help the coconut association deliver more acceptable interventions and continuously implement the research.	

Table 4.
Sustainability Plan Matrix of the Coconut 2.0 Research

The CAPSU Buriyas Campus College of Agriculture will capacitate the Coconut Farmers in coconut farming. The College of Agriculture will train the farmers by introducing technologies, practices, and farm management.

Integration of Coconut-based machine

The Bachelor of Science in Agriculture Biosystems Engineering of CAPSU Buriyas Campus will introduce to the Coconut Association matured technology like coconut-based machines to help them increase their production capacity.

Uphold Positive Stakeholder Relationships among the major stakeholders

Understanding the stakeholders can help the coconut association deliver more acceptable interventions and the continuous implementation of the research.

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