

## FY 2020 Annual Report of Accomplishments and Results

Northern Mariana Islands
Northern Marianas College

### I. Report Overview

The NIFA reviewer will refer to the executive summary submitted in your FY 2020 Plan of Work located in the Institutional Profile. Use this space to provide updates if needed.

<b>1. Executive Summary (Optional)</b>
Please see Institutional Profile summary.

## II. Merit and Scientific Peer Review Processes

The NIFA reviewer will refer to your 2020 Plan of Work. Use this space to provide updates as needed or activities that you would like to bring to NIFA's attention.

Process	Updates ONLY
1. The <u>Merit Review Process</u>	No updates.
2. The <u>Scientific Peer Review Process</u>	No updates.

### III. Stakeholder Input

The NIFA reviewer will refer to your 2020 Plan of Work. Use this space to provide updates as needed or activities that you would like to bring to NIFA's attention.

Stakeholder Input Aspects	Updates ONLY
1. Actions taken to seek stakeholder input that encouraged their participation with a brief explanation	No updates.
2. Methods to identify individuals and groups and brief explanation.	No updates.
3. Methods for collecting stakeholder input and brief explanation.	No updates.
4. A Statement of how the input will be considered and brief explanation of what you learned from your stakeholders.	No updates.

#### IV. Critical Issues Table of Contents

No.	Critical Issues in order of appearance in Table V. Activities and Accomplishments
1.	Please note that we have organized the Activities and Accomplishments by program area. Some activities include more than one critical issue.
2.	
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#### V. Activities and Accomplishments

Please provide information for activities that represent the best work of your institution(s). In your outcome or impact statement, please include the following elements (in any order): 1) the issue and its significance (e.g. who cares and why); 2) a brief description of key activities undertaken to achieve the goals and objectives; 3) changes in knowledge, behavior, or condition resulting from the project or program’s activities; 4) who benefited and how. Please weave supporting data into the narrative.

No.	Project or Program Title	Outcome/Impact Statement	Critical Issue Name or No.
1.	<b>Virtual Extension in the COVID-19 Pandemic</b>	The Commonwealth of the Northern Mariana Islands (CNMI) continues to import 90% of its food consumed by ocean or air transport. As a result, the territory is food insecure and vulnerable to disruptions in the food supply chain. A good example of the CNMI’s vulnerability is the ongoing COVID-19 pandemic where at the onset of this health crisis, flights were suspended and air flown food commodities were limited and ocean bound supply deliveries delayed resulting in shortages at the stores. In light of safety concerns with the traditional extension methods, the Aquaculture & Natural	<ul style="list-style-type: none"> <li>- Food Security</li> <li>- High Cost of Production</li> <li>- Climate Change Effects &amp; Mitigation</li> <li>- Biosecurity &amp; Invasive Species</li> </ul>

		<p>Resources (A&amp;NR) expediently adapted to delivering services to its clients using virtual platforms. A&amp;NR conducted its first of many webinars in May of 2020 using Zoom and smart phone apps to teach passive/static hydroponics production to clients in the safety and comfort of their own homes. As a result, the A&amp;NR helped clients start their home hydro and aquaponics food production system adopting technologies and gaining knowledge from the webinars and in face to face visits (as the COVID-19 transmission rates declined in the CNMI). Based on pre and posttests results administered during the webinars, participants demonstrated a 75% gain in knowledge when results were compared. With participants that opted to implement the knowledge gained from the webinars, there were 100% adoption of technologies shared during the webinars verified by extension visits to clients.</p>	
<p><b>2.</b></p>	<p><b>Utilizing Fish Processing Waste (FPW) as a Feed Ingredient for Locally Made Aquaculture Feed</b></p>	<p>Aquaculture feed is a major cost for producers in the CNMI at 30% of the overall Cost of Production (COP). With disruptions in the supply chain, availability can also be an issue at times at the expense of the producers and their crops. In light of this, A&amp;NR has made tremendous progress in building capacity within the program to equip the staff with the necessary researched and science based knowledge that can be shared with the program’s target audience. As a result of professional development and capacity building, the program conducted a webinar, as a first step, in September of 2020 to teach participants how to use Fish Processing Paste (FPW) as an ingredient in the production of farm made feed. The concept is to collect FPW from restaurants and processors that would otherwise end up in the landfill and turn these into feeds once properly rendered. Results from the pre and posttests taken by participants during the webinar indicated a gain in knowledge of 70% when results were compared. Once the pandemic subsides, the next step would be to conduct practical training in making aquaculture feed using FWP and other locally available ingredients.</p>	<ul style="list-style-type: none"> <li>- Food Security</li> <li>- High Cost of Production</li> <li>- Climate Change Effects &amp; Mitigation</li> <li>- Biosecurity &amp; Invasive Species</li> </ul>

<p><b>3.</b></p>	<p><b>Aquaculture Commodity Diversification</b></p>	<p>Since the inception of the Aquaculture &amp; Natural Resources program at NMC CREES, the program have only been able to commercialize marine shrimp and Tilapia in the CNMI. Current program efforts are focused on the establishment and commercialization of Rabbit fish with work concentrated in stabilizing the supply of seed stock for farmers to reduce the need for imports. Once this is accomplished, program focus will shift to the grow out of jumbo, freshwater prawn (<i>Macrobrachium rosenbergii</i>) to meet the local demand for other, high value, aquaculture commodities to farm. In anticipation of this shift, A&amp;NR conducted a webinar on farming freshwater prawn in August of 2020 for potential prawn farmers. The session touched on the biology, environmental requirements, nutritional needs, water quality, and general husbandry practices of the species. The webinar was well received by the public with participants gaining knowledge on the species and farming methods as demonstrated by an increased in knowledge of 75% in the results of the tests administered during the virtual session. One participant requested an electronic copy of the presentation to use it as a reference in his planned farm development.</p>	<p>-Food security</p>
<p><b>4.</b></p>	<p><b>Ornamental Aquaculture Industry Support</b></p>	<p>Ornamental aquaculture has the potential to generate revenue for the CNMI through the export of native, marine species like Tangs, Mantis Shrimp, and Seahorses to name a few. It can also provide livelihood for island residents who wish to learn how to culture these species and export them to two of the largest ornamental species markets in the world, Japan, which is only a 3 hour, plane ride away and the United States mainland. Hawaii has closed the life cycle of the Yellow Tang (YT) species and is producing export grade YT in captivity and exporting them to the U.S. mainland. In light of the potential for the ornamental aquaculture sector, A&amp;NR has started laying the foundation in support of the industry. In the summer of 2020, the program conducted webinars on how to culture phyto and zooplanktons, essential nutrition in the rearing and maintenance of marine or freshwater species in the aquarium or ornamental trades. Webinar evaluation results form the pre</p>	<p>- Bio-security &amp; Invasive Species - Workforce Development &amp; Human Capital</p>

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		and post indicated a change and increase in knowledge by 80%. As a result of the webinars and face to face, extension visits, the program have helped a farmer apply for WSARE funding to culture Spirulina and trained a pet storeowner on how to culture artemia, a type of zooplankton, to feed the many ornamental species that the storeowner is growing and selling.	
5.	<b>Aquaculture Education for Youth</b>	Aquaculture is considered one of the fastest growing sectors in the food production industry at 8% annual growth. As the demand for farmed seafood increases in the coming years due to the expected population growth and increased incomes, the need for labor in the aquaculture will grow commensurately. In anticipation of this projected need for labor, A&NR is heavily engaging the youth population in the CNMI by educating through outreach activities that include participation in a mini-career fair organized by the college's science department and the NRM/ENRO, student group organization and an outdoor, science classroom event sponsored by the local Seventh Day Adventist School. In the career fair, we shared potential career choices in the industry like hatchery managers, laboratory technician, research assistants and others in the field to college, undergraduate students. Elementary and middle school students in the outdoor classroom event learned about mariculture and how some of the seafood that they are consuming come from saltwater farmed species and husbandry that comes from farming seafood. Further follow up is needed to ascertain outcomes and impacts associated with these activities.	<ul style="list-style-type: none"> <li>- Youth Development &amp; Advancement</li> <li>- Workforce Development &amp; Human Capital</li> <li>- Food Security</li> </ul>
6.	<b>Agriculture Production Program</b>	Outreach and education activities, virtual workshops, one-on-one trainings and stakeholder's meetings are being organized at multiple sites to increase awareness and develop skills in the sustainable agriculture system and explain strategies to increase agricultural production to agriculture students, farmers and backyard gardeners. On-site and off-site recommendations are continued and technical assistance, support and outreach were provided to farmers and stakeholders on locally appropriate farming techniques and practices. Various seedling preparation, planting and distribution are being	-Food Security

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		<p>continued. Multiple research experiments on numerous vegetable are being conducted and harvested fresh produce such as tomatoes, cantaloupes, eggplants and radishes were donated not only to state hospital, schools, dining halls, center for living independently but also to vulnerable populations for consumption because the COVID-19 pandemic has brought unprecedented challenges both for local people and society. A total of 800 pounds of produce was donated to organizations that focus on increasing household food security during the COVID19 pandemic.</p> <p>The outreach, extension and education activities increased knowledge, created awareness and developed skills of 100% of participants. Ultimately, various activities developed positive attitudes, zeal for learning techniques and farming aspects and changed the behavior of the participants.</p>	
7.	<b>Increasing Sustainable Agriculture Through Agroforestry</b>	<p>The small-scale nature of our local agricultural systems and the highly fertile, year-round conditions for growing in the tropics, make our islands well-suited for promoting and developing sustainable agriculture technologies and practices. Numerous workshops and trainings have been conducted to increase awareness and skills of participants in agroforestry, sustainable agriculture and food security. In FY 2020, an additional three farmers have started to revive their agroforestry plots.</p>	-Food Security
8.	<b>Virtual 4-H Camp Maga’lahi</b>	<p>2020 has been a year like no other causing disruption, creating isolation, and unprecedented stressful situations. Many families adapted to the rapidly evolving state of affairs the best way they could. Parents and children learned to create new routines and found creative ways to stay engaged. Despite all the challenges brought about by the pandemic, the Family, Community, and Youth Development (FCYD) Program, in partnership with 4-H Marianas, held the sixth annual 4-H Camp Maga’lahi Summer Camp. The program migrated to a virtual platform utilizing Zoom and Google</p>	<p>-Youth Development &amp; Advancement -Mental Health (emerging issue)</p>



		<p>Classroom. The migration to an online format was new to many of our staff; however, through extensive research and training, we were able to find innovative ways to engage our youth virtually.</p> <p>During times of uncertainty, it is critical to provide positive outlets for our youth to express themselves and socialize with their peers. The 4-H virtual summer camp afforded the youth an opportunity to actively participate as a youth leader or as a camper. The six half-day summer camp sessions were facilitated by trained 4-H youth counselors. This joint effort resulted in successfully implementing the 4-H Camp Maga'lahi completely online adhering to the safety precautionary measures of social distancing. As a result of our efforts, we were able to engage 75 campers, 12 youth counselors, and 6 adults in a fun, interactive, and safe virtual learning environment. The six half-day sessions included a variety of topics -- Coding Unplugged, Science-at-Home, Photography, and more.</p> <p>At the end of camp, participants rated their personal growth through a post pre/post survey. Using a likert scale with 1 being “not confident” and 5 being “very confident”, 3 (10.3%) campers rated their confidence level in leading projects before camp a four out of five, while 5 (17.2%) campers rated themselves five out of five. After completion of Camp Maga’lahi, 14 (48.3%) of the participants rated themselves a four out of five and 8 (27%) participants rated themselves a five out of five. Participants were also surveyed on their public speaking skills in which 5 (17.2%) participants rated themselves a 4 or higher before attending camp. In the post-survey, 23 (79.3%) participants rated themselves a 4 or higher. As a result of attending the virtual summer camp program, the campers were able to increase their leadership and public speaking skills considerably.</p> <p>Additionally, the parents completed a post survey to gauge their thoughts</p>	
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		<p>regarding their child’s participation in the virtual summer camp. A parent stated “It was a great way to get the kids to come together during this pandemic. My daughter loved the camp. She really enjoyed the interaction on Zoom and the resources on Google classroom. My daughter loved the content, topics, and what she learned in the session”. Another question asked if parents noticed a difference in their child(ren)’s interest in learning, behavior, or confidence. One parent responded, “ Yes, after the science class (Making a bubble) he talked and taught his younger siblings how to make a bubble”. Another parent stated “My daughter was more confident with cooking and taking photos”. A parent also stated that her child “increased her skills with online platforms that will be beneficial going into the 2020-2021 school year.” Overall, parents felt the virtual camp met their expectations. As one parent commented, “The camp met my daughter and my expectations. I was impressed with how much my daughter loved and enjoyed attending camp.”</p>	
<p><b>9.</b></p>	<p><b>Building Human Capacity</b></p>	<p>2020 has been a challenging year in ways none of us could have ever imagined. Many organizations were negatively impacted to varying degrees some resulting in furloughs/layoffs. Many programs and services were halted as face-to-face interactions were discontinued. Governmental and nongovernmental organizations within the Commonwealth of the Northern Mariana Islands (CNMI) including the Northern Marianas College (NMC) had to migrate to an online platform. People were finding new ways to limit disruption and remain connected with others by utilizing technology. The transition to a virtual setting was new to many individuals within our communities. As we continued to adapt to this new environment, the FCYD program was able to provide capacity development opportunities to help navigate the negative ramifications brought about by the pandemic. A wide range of seminars were conducted virtually. The topics included financial management, navigating the new norm (Zoom training, etc.), and mental</p>	<p>-Workforce Development and Human Capital          -Youth Development and Advancement          -Mental Health (Emerging issue)</p>

		<p>wellness.</p> <ol style="list-style-type: none"> <li>1. <b><i>Ways To Prioritize Spending Your Stimulus Check and 2019 Annual Tax Rebate</i></b> - As a result of the economic downturn in the Commonwealth of the Northern Mariana Islands (CNMI), the CNMI government imposed austerity measures by reducing work hours from 80 to 72 hours bi-weekly. When both private/public sectors began shutting businesses/public offices down due to the Coronavirus Pandemic, bi-weekly work hours went to as low as 64 hours while others were furloughed/laid off. This seminar was conducted in hopes to assist individuals in managing their limited resources while setting money aside for emergency purposes. Participants learned new strategies to save money and stretch their dollars by prioritizing their spending. There were a total of 31 participants (80% of which were either furloughed or laid off from employment).</li> <li>2. <b><i>Money Management for College Students</i></b> - The furloughs/layoffs also impacted many students as they were faced with some financial issues such as purchasing school related material (e.g. books). The Family, Community, and Youth Development (FCYD) program conducted a presentation that would help college students develop a financial plan. Participants learned budgeting formulas, income versus expenses, fixed/variable expenses, creating a budget, and how to save money using the envelope method. There were a total of 26 participants.</li> <li>3. <b><i>Setting Up Your Zoom Virtual Space Tips and Tricks</i></b> - NMC employees and student workers learned how to effectively set up their home offices while teleworking. The presentation included finding the right lighting, how to set up a professional background, maximizing camera use through Zoom and using proper Zoom etiquette. The participants expressed an increase in their confidence</li> </ol>	
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		<p>level in using the virtual platform. There were a total of 48 NMC faculty and staff and 17 student workers who participated in this session.</p> <p>4. <b><i>How To Conduct/Facilitate Virtual Seminars</i></b> - This presentation aimed to assist NMC employees to effectively plan, conduct, and facilitate virtual seminars. Topics included identifying seminar roles, incorporating virtual activities, and action item tips for pre and post seminar. After attending the seminar, participants articulated an increase in their comfort level conducting/facilitating virtual seminars. There were a total of 50 NMC employees that attended this presentation.</p> <p>5. <b><i>Zoom Basics Training</i></b> - This training was intended to assist incoming students for the Fall 2020 semester in navigating the Zoom platform. Participants gained knowledge in learning how to join a Zoom meeting, host a Zoom meeting, familiarize themselves with the settings to effectively utilize Zoom to its fullest capacity for classroom participation. Participants indicated their confidence level in navigating the Zoom platform increased after attending the seminar. There were a total of 43 NMC students who attended this training.</p> <p>6. <b><i>Embracing Technology through Utilizing Virtual Platform for Program Delivery Training</i></b> - This training was conducted to help the CNMI Women’s Association (CWA) host their annual Women’s Summit virtually. Participants engaged in learning the basics of Zoom; how to set up their home stations to conduct virtual presentations; roles and responsibilities of facilitators, moderators, and chat monitors; how to effectively engage participants; and tying it all together in a mock session. The training was conducted over the course of 4 days. As a result of the training, the CWA were able to use their newly gained skills to host their first ever virtual summit</p>	
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		<p>which had a total of 169 participants on Zoom while 1,300 participants joined via FaceBook live. There were a total of 12 participants trained.</p> <p>7. <b>Basic Computer Tutorials-</b> This training was intended as a refresher training for NMC CREES employees with the purpose to acquaint them with an understanding of basic computer skills and troubleshoots through virtual hands-on presentations via Zoom delivery. Topics included Basic Excel &amp; Google Sheets, Using Adobe Acrobat, &amp; Password Protecting Your Documents. A total of 12 employees attended this training.</p> <p>8. <b>College Life Hacks Virtual Workshop-</b> This training was intended to assist incoming students for the Fall 2020 semester in learning simple basic college tips and tricks for increasing productivity, organization, and maximizing effectiveness. This seminar was very important as students expressed an increased procrastination on their part due to feeling disconnected from their peers. There were a total of 22 participants.</p>	
<p><b>10.</b></p>	<p><b>Leveraging Partnerships</b></p>	<p>The Family, Community, and Youth Development (FCYD) program has been diligently working toward establishing a network among governmental and non-governmental organizations to provide countless experiential learning opportunities for the youth, families and community members. Despite the current pandemic, we were able to engage our community in a relevant and meaningful way. By leveraging the skillsets of the trained volunteers and partnering agencies, we were able to swiftly migrate to the virtual platform limiting disruption of program services. These partnerships created opportunities to address the hardships of the novel coronavirus and educate the community about the importance of mental health wellness, navigating the online world for students, and creating braver spaces.</p>	<p>-Workforce Development and Human Capital          -Youth Development &amp; Advancement          -Mental Health (Emerging Issue)</p>

		<ol style="list-style-type: none"> <li>1. <b><i>Beyond the Classroom</i></b> - The FCYD program in partnership with 4-H Marianas created the 4-H Beyond the Classroom (4-H BTC) as a response to the closing of schools due to the unforeseen pandemic. 4-H BTC aimed to compliment the lessons normally taught in schools in addition to engaging youth in other topic areas. This program was open to a wide range of audience from elementary to college students across Saipan, Tinian, and Rota. 4-H BTC facilitated eight sessions between April and June with a total of 237 youth participants. With the assistance of 4-H members and adult volunteers, topics were identified based on what were relevant to the community. The 4-H BTC topics included “What is COVID-19?” presented by Commonwealth Healthcare Corporation (CHCC) Pediatrician, Dr. Elizabeth Triche; Mental Health presented by CHCC Community Guidance Center staff; “Social Media Do’s and Don’ts” presented by the 4-H Board of Directors; and “Creating Braver, Safer Spaces” presented by Advance Pacific and Pride Marianas Youth. These topics explored areas in current trends, and more importantly, our current global situation with the pandemic that has proven to be detrimental to the mental health of all ages. This effort enabled us to leverage existing partnerships to provide a forum in which our community members can engage in meaningful conversations about important issues in today’s world.</li> <li>2. <b><i>Gratitude Campaign</i></b> - In response to the COVID-19 pandemic, the FCYD program in partnership with 4-H Marianas created a campaign to show appreciation to the CNMI frontline workers. With the uncertainty of the pandemic and growing concern for community transmission, members of the community were encouraged to practice social distancing by remaining at home. As a result, many individuals young and old were feeling isolated and disconnected.</li> </ol>	
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		<p>The “Gratitude Campaign” was designed to uplift the community’s spirit by engaging the community in spreading positive messages. The 4-H Marianas was instrumental in gathering video footage from youth across Saipan, Tinian, and Rota saying “Thank You” to the nurses, doctors, police force, the CNMI COVID-19 Task Force and many more for their diligent and swift response to the pandemic. FCYD assisted in working with partners and community leaders to give their thanks as well. This video reached over 7,000 people on Facebook. In addition to the video, the 4-H Marianas Public Relations Officer created an interactive virtual campaign that engaged viewers in tagging doctors, nurses, and any frontline workers that they knew and sharing it on their personal social media. There were 42,000 indirect engagements with the gratitude campaigns across Facebook and Instagram.</p> <p>3. <b><i>Spirit Challenge</i></b> - In addition to the Gratitude Campaign, the FCYD Program partnered with the 4-H Marianas Board of Directors in creating a month long spirit challenge on Instagram stories that aimed to help youth across the CNMI engage with their peers online. The challenge stimulated creativity as youth and community members interpreted the stated challenge in their own way. There were a total of 35 youth that participated throughout the month and 40,000 indirect engagements across social media platforms.</p>	
11.			-Research and Extension Infrastructure
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<b>OPTIONAL</b>	
<b>Youth Development Expenditures (dollars)</b>	
State and/or Institution:	FY 2020 Expenditures (\$)
1862 Smith-Lever	\$78,790.64
1890 Extension	N/A