

2007 Northern Marianas College Combined Research and Extension Plan of Work

Brief Summary about Plan of Work

The Commonwealth of the Northern Marianas Islands' (CNMI) diversity in ethnicity, cultures and language has created numerous challenges for the Northern Marianas College-Cooperative Research Extension and Education Service (NMC-CREES). This 5-year Plan of Work is a cohesive vision for our preferred future in the Agricultural Research and Extension (ARE) and Family and Consumer Science (FCS) programs. Currently, NMC-CREES has 35 Full Time Equivalent (FTE's). Seventeen (17) FTE's are Agricultural Research and Extension (ARE), Fourteen (14) FTE's for Family Consumer Science (FCS) and four (4) FTE's from Administrative Services. The ARE focuses on Crop Improvement, Plant Protection, Soil and Water Quality, and Livestock Improvement. On the other hand, FCS focuses on Expanded Food and Nutrition Education Program (EFNEF), Nutrition, Diet and Health, and Families, Youth and Community Enrichment Program. The knowledge areas were selected for their significant potential for establishing mutually beneficial partnership with farmers, ranchers, advisory councils, industry, and government agencies. This plan also recognizes that NMC-CREES must be positioned to respond rapidly and effectively to emerging issues that affect the profitability and sustainability of the CNMI agriculture, now and in the years ahead. This plan has grown out of discussions and listening sessions from people around the CNMI and emanated from reviews of the national goals of the United States Department of Agriculture, the needs of the commonwealth, faculty expertise and interest. This Plan of Work envisioned assisting and supporting the 30% target population thru combination of agricultural research and extension into one unit. This will facilitate and strengthen this research-extension-client interaction and will better focus the efforts of the scientist on high priority research problems and improve the level of technical competence of the extension staff. The NMC-CREES portfolio is strengthened through partnership and collaborations with other land grant colleges and universities, as well as with stakeholders throughout the CNMI and the region. Our interactions with collaborators enable us to promote educational programs, extension services and our research projects that are the results of the growing needs and challenges that the CNMI community faces and must satisfy.

The NMC-CREES mission is committed to enhancing the well-being and quality of life of the CNMI community through research and extension in agriculture, family and consumer sciences.

Estimated number of professional FTEs/SYs to be budgeted for this plan.

Year	Extension		Research	
	1862	1890	1862	1890
2007	18.3	0.0	9.3	0.0
2008	18.3	0.0	9.3	0.0
2009	33.8	0.0	13.3	0.0
2010	35.3	0.0	13.3	0.0
2011	35.3	0.0	13.3	0.0

Merit Review Process

The merit review process that will be employed during the 5-Year Plan of Work cycle

- Expert Peer Review
- Program Leaders

Brief explanation

Since the number of CREES staff is relatively small, all of the professional level staff is encouraged to participate in Merit Peer Review. Also, external collaborators including other institutions of higher learning may send their comments before the Peer Review. A draft of the proposal to be reviewed is e-mailed to all of the CREES staff for suggestion and comments, well before the review meeting. The suggestions and comments from the staff are collated and submitted to who initiated the proposal. The draft proposal is revised and made

available to all of the staff for the merit or peer review. All available professional research and extension staff participates in the review. During the review, we assess 1) the priority of importance of the proposed project; 2) the relevance of the proposal; 3) the quality and scientific value of the proposed research or extension activities and 4) the opportunities for cooperation with others. The proposals are revised to incorporate the suggestions given during the merit review and approved by the appropriate Director and NMC President prior to submission.

Evaluation of Multis & Joint Activities

1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?

The planned programs will be based on input from stakeholder group and scientists who identify current and emerging critical issues. To obtain inputs from stakeholders, the program utilizes a number of forums, conducts conferences and periodic meetings to solicit advice and discuss agricultural research and extension needs and priorities. More formal and objective methods of involving stake holders in the process of problem identification, estimation of problem importance, problem diagnosis, assessment of research and extension priorities, program solutions and project planning, program implementation and program evaluation will be developed, implemented and explained in updates to this 5 year plan.

2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?

The planned program for both research and extension aims to increase promotions in the grass-root levels via program visibility and outreach thru provisions of professional experts such as language interpreter

3. How will the planned programs describe the expected outcomes and impacts?

The planned programs will develop specific outcomes that would occur over a period of 5 years thru pre- and post evaluation, changes in learning behavior, change in action and change in condition such as life styles, environmental improvements and positive economic impact.

4. How will the planned programs result in improved program effectiveness and/or efficiency?

Partnership and collaboration plays a big role for most of the project success together with program updates that provide avenues for feedback mechanism such as e-mail, suggestion box, and improved and updated websites

Stakeholder Input

1. Actions taken to seek stakeholder input that encourages their participation (Check all that apply)

- Survey of traditional stakeholder groups
- Survey of the general public

Brief explanation.

The above listed actions have been the most effective tools that generate stakeholders' input and participation based on history. It also covers a broad range of target audience.

2(A). A brief statement of the process that will be used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees

Brief explanation.

Individuals with experiences relevant to NMC-CREES's mission, goals and objectives are selected to serve in an Advisory Council. These individuals also represent community issues and priorities.

2(B). A brief statement of the process that will be used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Meeting with invited selected individuals from the general public

Brief explanation

The methods mentioned above are commonly and widely used as effective tools to generate participation.

3. A statement of how the input will be considered

- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- To Set Priorities

Brief explanation.

Groups and program leaders based their needs on extension and research priorities and problems of the CNMI that uses program implementation and evaluation.

1. Name of the Planned Program

Livestock Improvement Program

2. Program knowledge areas

- 307 Animal Management Systems 20 %
- 311 Animal Diseases 20 %
- 302 Nutrient Utilization in Animals 10 %
- 313 Internal Parasites in Animals 10 %
- 312 External Parasites and Pests of Animals 10 %
- 314 Toxic Chemicals, Poisonous Plants, Naturally Occuring Toxins, and Other Hazards Affecting Animals 5 %
- 308 Improved Animal Products (Before Harvest) 10 %
- 315 Animal Welfare/Well-Being and Protection 5 %
- 303 Genetic Improvement of Animals 10 %

3. Program existence

- Intermediate (One to five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The Livestock Improvement Program is designed to improve the competitiveness of the CNMI cattle, goat, swine and poultry produced, by reducing costs of production, increasing productivity and profits. The program will also help improve the safety of animal products by assisting in the development of suitable slaughter facilities and meat inspection. The program will focus on eradicating livestock diseases of economic and public health importance. Thru partnership and collaboration with other land grant colleges, local government agencies (DLNR) and regional organization such as SPC and ADAP. It also aims to focus on improvement animal production and offering new opportunities for alternative livestock enterprise. Continued promotion and training of local paravets to assist CNMI Veterinarian for an effective and high quality veterinary services. Research and extension emphasis on emerging CNMI Livestock industry will be given priorities.

The Aquaculture and Fisheries Development Program attempts to enhance the economic profitability of its clients through the progressive transfer of technology. Our promotion of the grow-out of Pacific White Shrimp (*Litopenaeus vannamei*) for example, has established a supply for the large shrimp demand in the CNMI's local market. This success leads us to believe that there is need for further expansion in the aquaculture industry. For the duration of this POW the AFDP will attempt to further expand its existing aquatic selection through the introduction of rabbit fish, groupers, mullets, and milkfish through tank culture.

6. Situation and priorities

Livestock industry is made up of 80% small-scale ranchers, meaning ranchers/farmers with limited resources, lack of technical knowledge and subsistence farmers. The high cost of feeds for swine and poultry prohibits them from farming. Levels of productivity of cattle and goats raised on poorly managed pasture are low. There are animal health problems, which affect productivity. Avian flu scare in neighboring countries. Presence of cattle Brucellosis in that prevents export. Inbreeding is a problem due to a continual shortage of imported breeding males or new breeding stock. Only a small part of the locally produced beef and goat, or pork meat is inspected and receives USDA approval.

The population of the CNMI, with the Asian guest workers and tourists, are traditionally large consumers of fish. With the decline of the fisheries in the oceans surrounding the CNMI, aquaculture is currently feasible on the islands. At present the CNMI is highly dependent on imported seafood from other markets. Producing or harvesting more fish locally, may lead to the improvement of the Commonwealth's economy; provide increased employment to local fishermen and farmers; and improve the supply, quality, and freshness of the seafood consumed locally. These are long-term issues in the CNMI.

7. Assumptions made for the Program

- Additional FTE's for other islands

- Certification and licensing of Paravets
- Provision of slaughter house and meat inspector
- Increase funding for animal health program
- More "Train the Trainers Program"

8. Ultimate goal(s) of this Program

- Improve the competitiveness of the CNMI cattle, goat, swine and poultry produced, by reducing cost of production and increasing productivity and profits.
- To ensure viability of small scale farmers engaged in alternative livestock enterprise
- To train more paravets and animal health technician regarding animal health and production

9. Scope of Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other than formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	3.0	0.0	1.5	0.0
2008	3.0	0.0	1.5	0.0
2009	4.0	0.0	2.5	0.0
2010	4.0	0.0	2.5	0.0
2011	4.0	0.0	2.5	0.0

Outputs for the Program

13. Activity (What will be done?)

- Training of local Paravets
- Conduct Animal disease survey
- Implement animal health program -USDA
- Conduct farm training for small farmers
- Conduct animal health and management workshops
- Conduct mini-workshop on alternative livestock enterprise
- Implement and promote sustainable livestock waste management

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
<ul style="list-style-type: none"> ● Education Class ● Demonstrations ● Other 1 (Mini Workshops) ● Other 2 (Presentations) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites ● Other 1 (Video/Radio)

15. Description of targeted audience

Youth and adult
 Ranchers/farmers
 Livestock producers
 Government agencies

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	200	500	300	500
2008	250	600	300	500
2009	300	700	500	1000
2010	350	800	500	1500
2011	350	1000	500	1500

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of Research projects on Animal Diseases

2007 Target: 2
2008 Target: 2
2009 Target: 2
2010 Target: 2
2011 Target: 2

Output Text

Number of Livestock Workshops (Production, Animal Health, etc.)

2007 Target: 6
2008 Target: 6
2009 Target: 6
2010 Target: 8
2011 Target: 8

Output Text

Number of Research Projects completed on Aquatic Species

2007 Target: 1
2008 Target: 1
2009 Target: 1
2010 Target: 1
2011 Target: 1

Output Text

Number of farmers engaged in pasture rotation grazing

2007 Target: 5
2008 Target: 10
2009 Target: 10
2010 Target: 10
2011 Target: 10

Output Text

Numbers of clients implementing best management practices in swine waste management

2007 Target: 2
2008 Target: 4
2009 Target: 10
2010 Target: 10
2011 Target: 10

Output Text

Numbers of paravets practicing hands-on in the CNMI

2007 Target: 4
2008 Target: 7
2009 Target: 11
2010 Target: 11
2011 Target: 15

Output Text

Number of new alternative livestock enterprise introduced in the CNMI

2007 Target: 3
2008 Target: 2
2009 Target: 2
2010 Target: 3
2011 Target: 3

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of New Farmers engaged in Alternative Small Scale Livestock Enterprise

Outcome Type: Long

2007 Target: 3
2008 Target: 5
2009 Target: 10
2010 Target: 10
2011 Target: 15

Outcome Text

Number of farmers use Artificial Insimination pogram

Outcome Type: Long

2007 Target: 10
2008 Target: 10
2009 Target: 15
2010 Target: 20
2011 Target: 20

Outcome Text

Numbers of farmers market thier produce

Outcome Type: Long

2007 Target: 10
2008 Target: 10
2009 Target: 20
2010 Target: 20
2011 Target: 30

Outcome Text

Farmers who adapt the sustainable livestock waste managements

Outcome Type: Long

2007 Target: 5
2008 Target: 5
2009 Target: 5
2010 Target: 5
2011 Target: 6

Outcome Text

Number of farmers learning how to produce new aquatic species

Outcome Type: Long

2007 Target: 20
2008 Target: 25
2009 Target: 30
2010 Target: 35
2011 Target: 40

20. External factors which may affect outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy

Description

Presence of disaster, temperature change, availability of resources may affect animal conditions.

21. Evaluation studies planned

- Before-After (before and after program)
- During (during program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Other

Description

Animal performance, as well as the best management practices utilized or tested will be monitored before and after and during the program for both control and treatment tests. Results will be analyzed and compared with basal data. Data's are gathered thru observation, laboratory tests and sampling.

22. Data Collection Methods

- Sampling
- Whole population
- Telephone
- On-Site
- Observation
- Tests

Description

Data will be gathered throughout entire population affected by a disease thru sampling representative or specimen as part of the subject for experiment or research test. Additional inputs maybe taken via telephone as part of the behavioral results from client's observation and analysis.

1. Name of the Planned Program

Plant Protection Program (Invasive Species)

2. Program knowledge areas

- 216 Integrated Pest Management Systems 15 %
- 215 Biological Control of Pests Affecting Plants 20 %
- 211 Insects, Mites, and Other Arthropods Affecting Plants 40 %
- 213 Weeds Affecting Plants 15 %
- 214 Vertebrates, Mollusks, and Other Pests Affecting Plants 5 %
- 212 Pathogens and Nematodes Affecting Plants 5 %

3. Program existence

- Mature (More than five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The islands in the Commonwealth of the Northern Mariana Islands (CNMI) had evolved into an ecological system that is unique to the islands, and their biota had reached the so-called ecological balance. These islands systems are extremely fragile and vulnerable to the impacts of invasive species, therefore, any intrusion of alien species could be very devastating to this ecological balance. There are already present in the CNMI numerous alien species (invasive species) that are seriously impacting agriculture development. Our combined research and extension efforts are aimed at enhancing traditional agricultural practices, developing complementary methods of best management practices, and adopting already proven methods of addressing invasive species. Our program will attempt to catalog the pernicious invasive species that have already reached these islands and any future arrivals. In addition, we will develop reference collections of invasive species and general entomological specimens for educational purposes. We will continue to collaborate with regional expertise to develop systems to contain or to minimize the deleterious impacts of these invasive species on agriculture. We will continue to monitor ports of entries for early detection of invading unwanted plants and animals from without the CNMI. Our biological control program will enhance production of beneficial organisms that will be utilized by our integrated pest management program to minimize the need for pesticides. Early detection of crop pests and diseases is important to prevent the build up of pest populations and the spread of plant diseases. Our early detection and identification of insects, mites and other arthropods, plant pathogens, weeds, vertebrates, mollusks and other pests affecting plants will enhance our integrated plant protection programs, which will result in preventing crop damage of epidemic proportion.

6. Situation and priorities

The CNMI has very limited agricultural resources. Most agricultural productions are at subsistence level and any threat to these resources can seriously affect the livelihood of CNMI community and economy. Invasive species of both plants and animals pose the most serious threat to our meager resources and would, therefore, hinder sustainable agriculture development in the CNMI. There are already fairly large numbers of invasive species in the CNMI. These must be controlled or eradicated. Their impacts and damages to crops must be minimized or eliminated. We will endeavor to increase our capability to address the problems of invasive species, to improve best management methods and to extend these methods to our fulltime and subsistence farmers and other stakeholders.

7. Assumptions made for the Program

We assume funding will remain constant or increase. Additional FTE's will be available. FTE's will increase or be constant and no

reduction in force. Farmers and other stakeholders will have sufficient information on invasive species in order to minimize their impacts and damages to their crops, and therefore will increase their production. The deleterious effects of invasive species can be curtailed or minimized. Invasive species can be controlled and some perhaps can be eradicated.

8. Ultimate goal(s) of this Program

The ultimate goals of our program are: 1) to minimize or curtail the deleterious impacts of invasive species on agricultural crops, 2) to control or eradicate invasive species.3) work towards sustainable agriculture development.

9. Scope of Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other than formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	3.3	0.0	4.3	0.0
2008	3.3	0.0	4.3	0.0
2009	4.3	0.0	5.3	0.0
2010	4.3	0.0	5.3	0.0
2011	4.3	0.0	5.3	0.0

Outputs for the Program

13. Activity (What will be done?)

Our program staff will conduct research on biological and other methods of control against invasive weeds, insect pests, mollusks and plant diseases. As an example, the weed, *Coccinia grandis*, which came to the island of Saipan in the 1990's, has since spread throughout the island and recently found its way to the islands of Tinian and Rota. On Saipan, this invasive species has inundated even the forest areas climbing and covering all types of vegetation, including indigenous plants. This invasive species has been found to be attacked by two species of beetles and a species of moth. We aim to continue research on this weed and its parasites. Another example is the recently introduced Cuban slug, *Veronicella cubensis*, into the CNMI has become established on the island of Rota, has multiplied and has spread throughout most of the farm areas causing extensive damage to many crops. It has become a major agriculture pest and it has also become a threat to other islands in the CNMI where this pest is not present. We intend to continue to apply the best management methods of control and to find its natural enemies to supplement other methods of control. There are many more existing weeds, arthropods and other crop pests and diseases that require continuous application of best management methods. We will continue to improve on these methods and to extend the knowledge to our stakeholders. We will also continue to collect arthropods of economic importance, expand and enhance the economic insect collection, and the general invertebrate collection for reference and for taxonomic studies

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
<ul style="list-style-type: none"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 (presentation) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites ● Other 1 (Free Air Time)

15. Description of targeted audience

Farmers, other crop producers and farm helpers
 Business operators that promote or sell farm products
 Grade schools, high schools and college students interested in further knowledge in agriculture
 Adult Volunteer Leaders (4-H Clubs)

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	300	1000	500	1000
2008	500	1000	500	1000
2009	500	1000	500	1000
2010	500	1000	500	1000
2011	500	1000	500	1000

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of Research Projects completed on Invasive Species

2007 Target: 1
2008 Target: 1
2009 Target: 1
2010 Target: 2
2011 Target: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of farmers learning biological control methods against invasive species

Outcome Type: Long

2007 Target: 15
2008 Target: 20
2009 Target: 30
2010 Target: 30
2011 Target: 30

Outcome Text

Number of farmers using biological control against invasive species

Outcome Type: Long

2007 Target: 2
2008 Target: 2
2009 Target: 2
2010 Target: 2
2011 Target: 2

Outcome Text

Number of farmers learning Integrated Pest Management for suppression of invasive species and reduction of damage they cause

Outcome Type: Long

2007 Target: 15
2008 Target: 20
2009 Target: 30
2010 Target: 30
2011 Target: 30

Outcome Text

Number of farmers using Integrated Pest Management to control invasive species

Outcome Type: Long

2007 Target: 2
2008 Target: 2
2009 Target: 3
2010 Target: 3
2011 Target: 3

Outcome Text

Decrease the population of the various invasive species (Cuban Slug; Melon Fly; Sweet potato Weevil; Whiteflies infestation) by certain percentage:

Outcome Type: Long

2007 Target: 20
2008 Target: 30
2009 Target: 30
2010 Target: 30
2011 Target: 30

Outcome Text

Number of farmers learning the identity of invasive species through the use of the invasive species or economic insect reference collection

Outcome Type: Long

2007 Target: 10
2008 Target: 20
2009 Target: 20
2010 Target: 20
2011 Target: 20

Outcome Text

Number of farmers able to identify some of the invasive species causing damage to their farm crops

Outcome Type: Long

2007 Target: 2
2008 Target: 4
2009 Target: 4
2010 Target: 4
2011 Target: 4

Outcome Text

Number of farmers learning best practice management to control or eradicate the Cuban Slug, *Veronicella cubensis*

Outcome Type: Long

2007 Target: 10
2008 Target: 15
2009 Target: 20
2010 Target: 20
2011 Target: 20

Outcome Text

Number of farmers implementing best practice management to control or eradicate the Cuban Slug, *Veronicella cubensi*

Outcome Type: Long

2007 Target: 5
2008 Target: 10
2009 Target: 10
2010 Target: 10
2011 Target: 10

Outcome Text

Number of farmers implementing best practice management to control or eradicate the Cuban Slug, *Veronicella cubensi*

Outcome Type: Long

2007 Target: 10
2008 Target: 20
2009 Target: 30
2010 Target: 30
2011 Target: 30

Outcome Text

Number of farmers learning methods of early detection of crop pests and diseases on their farms

Outcome Type: Long

2007 Target: 10
2008 Target: 20
2009 Target: 30
2010 Target: 30
2011 Target: 30

Outcome Text

Number of farmers using methods of early detection of crop pests and diseases on their farms

Outcome Type: Long

2007 Target: 2
2008 Target: 2
2009 Target: 3
2010 Target: 3
2011 Target: 3

20. External factors which may affect outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Other

Description

The Mariana Islands Archipelago, which includes the islands in the CNMI, lies in the path of tropical storms and typhoons, which are usually generated from east or south east of the archipelago. Several storms or typhoons pass the CNMI practically every year, some of which become super typhoons generating wind velocity as strong as 200 miles per hour. A number of these typhoons can inflict total damage to agricultural crops and various private and public facilities. These conditions definitely affect the outcomes of our programs

21. Evaluation studies planned

- Time series (multiple points before and after program)

Description

Invasive species will be monitored at various intervals before and after implementation of biological control methods, and or comprehensive integrated or best management practices. Insects and other arthropods entering the CNMI through air and ocean vessels on their cargoes and passengers will be monitored in

collaboration with Agriculture Quarantine

22. Data Collection Methods

- Sampling
- On-Site
- Observation

Description

Sampling

Five sites on each island (Saipan, Rota, and Tinian) will be selected to periodically collect specimens for detection and identification of invasive species. Information on species collected will be recorded and tabulated for further analysis.

Survey questionnaire

Form questionnaire will be developed and distributed to farmers to ascertain what invasive species they have noticed on their crops. Information will be collected and tabulated. If pests are reported active, Extension Agents will be dispatched to the affected farms to make recommendations on management and control of target pests.

Observation

Periodic visits will be made to various farms to observe farm activities, note type of crops planted and observe the conditions of crops.

1. Name of the Planned Program

Crop Improvement Program

2. Program knowledge areas

- 205 Plant Management Systems 50 %
- 202 Plant Genetic Resources 10 %
- 204 Plant Product Quality and Utility (Preharvest) 40 %

3. Program existence

- Intermediate (One to five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The Crop Improvement program aims to increase the Quality and Quantity of produce grown in the CNMI. This will be accomplished through an integrated approach, utilizing information gained from locally inspired research projects, from which information can then be directly disseminated through extension activities. In an effort to improve farm productivity, sustainability, and competitiveness in the regional marketplace, this project aims to introduce appropriate technologies and improved plant genetic resources to the farming and gardening community.

6. Situation and priorities

The People of the CNMI are highly dependent on Imported foods. The great majority of produce sold in stores comes from Mexico, the U.S., China and other distant countries. In essence, farmers in the CNMI are competing with large-scale producers who are able to distribute produce consistently and in great volumes, over thousands of miles. Farmers in the CNMI have an opportunity to capture a certain fraction of these markets, not by matching the volume of produce imported from producers abroad, but by offering distributors, hotels and markets a better quality product that is fresher and tastier. Therefore, it is a priority of this program to identify improved genetic plant resources and materials. By increasing the availability and quality of genetic plant materials that have been tried and tested here in the islands, farmers and gardeners should observe improved production, improved resistance to pathogens, and improved quality of their produce. Furthermore, it is a priority of this program to promote sustainable farming systems that improve the chances of farms achieving long-term success.

7. Assumptions made for the Program

Funding will remain constant or increase. Additional FTE will be available.

8. Ultimate goal(s) of this Program

To raise the Quality and Quantity of produce grown in the CNMI

9. Scope of Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other than formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	1.5	0.0	1.8	0.0
2008	1.5	0.0	1.8	0.0
2009	2.5	0.0	2.8	0.0
2010	2.5	0.0	2.8	0.0
2011	2.5	0.0	2.8	0.0

Outputs for the Program

13. Activity (What will be done?)

Set-up demonstrations plots in the form of Fruit, ornamentals, and vegetable variety trials will be performed locally. Workshops will be conducted for fruit tree grafting along with other propagation techniques. Video production will be used whenever possible. Publications (brochures and fact sheets) and presentations will be produced and disseminated through informational seminars and lectures. Farmer-type gatherings such as association meetings, soil and water conservation district meetings and forums will be targeted. Students from the grade school, high school and College will also be involved in activities and presentations when ever possible. Implement best management practices in farms.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
<ul style="list-style-type: none"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 (Technical Presentations) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● Web sites ● Other 1 (Free Air Time)

15. Description of targeted audience

Government /Agency Collaborators
 All farm crop producers and farm helpers in the CNMI
Business operators that promote or sell farm products
 Grade school, High School and College students
 Adult Volunteer Leaders (4-H Clubs)

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	100	500	100	500
2008	100	500	100	500
2009	100	500	100	500
2010	100	500	100	500
2011	100	500	100	500

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of research projects completed on Crop Improvement Issues

2007 Target: 1
 2008 Target: 2
 2009 Target: 2
 2010 Target: 3
 2011 Target: 3

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of households that begin to grow food in their own garden

Outcome Type: Long

2007 Target: 10
 2008 Target: 20
 2009 Target: 30
 2010 Target: 30
 2011 Target: 30

Outcome Text

Number of farmers that learn to use Organic agriculture production systems on farm

Outcome Type: Long

2007 Target: 2
2008 Target: 4
2009 Target: 8
2010 Target: 10
2011 Target: 12

Outcome Text

Number of farmers using Sustainable Agriculture techniques (best management practices) such as cover cropping, mulching, rotational grazing, no-till farming, composting, etc...

Outcome Type: Long

2007 Target: 2
2008 Target: 4
2009 Target: 6
2010 Target: 8
2011 Target: 10

20. External factors which may affect outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Competing Public priorities

Description

The tropical islands of the Northern Marianas have year-round agricultural management problems that are heavily influenced by the climate. The economy is also heavily dependent on the Asian economy, and not the mainland USA economy; whatever happens in Asia is multiplied onto Saipan and the Northern Marianas. New plagues of pests may be delivered by tropical storms and typhoons. Typhoons and near typhoons also regularly destroy vegetation, and all the standing crops practically every year.

21. Evaluation studies planned

- Time series (multiple points before and after program)

Description

A benchmark data on crop yield, objective assessment of the lower costs and higher output that will result from an improved crop production. This will require the preparation and up to date farm budgets for producing crops.

22. Data Collection Methods

- On-Site
- Observation

Description

Farms, Farmers and people within the community will be questioned, observed and documented before and after having implemented the said technologies.

1. Name of the Planned Program

Soil and Water Quality Program

2. Program knowledge areas

- 111 Conservation and Efficient Use of Water 50 %
- 102 Soil, Plant, Water, Nutrient Relationships 20 %
- 403 Waste Disposal, Recycling, and Reuse 30 %

3. Program existence

- Intermediate (One to five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The Soil and Water Management program will promote the wise conservation, management and sustainable development of Soil and Water Resources here in the CNMI. This program aims to decrease the community's reliance on municipal water wells by promoting the use of rain catchments. There is also a strong need to introduce and test appropriate technologies or best management practices for soil strengthening and conditioning to further reduce the need for water consumption on the farm.

Furthermore, it is envisioned that these practices will improve the economics and competitiveness of the farming systems here by utilizing manure and organic materials available here on island whenever possible, further decreasing the reliance on imported fertilizers, pesticides and feeds. This program also aims to educate the people of the CNMI on the value of recycling through capacity building and education.

6. Situation and priorities

The People of the CNMI are highly dependent on imported goods. The high cost of shipping relative to the enormous distance between the Marianas Islands and the U.S. Mainland has had an adverse impact on the price of all commodities brought to the islands. The high cost of living in the islands is especially discomfoting in respect to the rising cost of operating a farm. The high cost of feeds and fertilizers, for example, have had a detrimental effect on the ability of the indigenous people to sustain their farming endeavors. Furthermore, the islands' have observed a continuous and steady decline of available land, water and soil resources. Due to the geographic nature of the islands, soils here are either highly erodible or porous requiring extra effort in protecting soil and water resources from overuse, potential contamination or total loss. This is especially significant when one considers the high frequency of heavy rains and typhoons. Priority will be given to promoting sustainable agriculture techniques that protect and nurture soil and water resources such as cover cropping, dry litter waste management system for hogs, no-till farming, mulching, composting and organic farming in general. This program aims to focus mainly on promoting simple best management practices for conserving and developing the islands soil and water resources to ensure that they may be available and healthy for many generations to come.

7. Assumptions made for the Program

Funding will remain constant or increase. Soil and water conservation efforts will increase over time as more and more farmers and members of the community adopt the said activities on their own. A dditional FTE's will be available.

8. Ultimate goal(s) of this Program

The Soil and Water Management program will promote the wise conservation, and management and sustainable development of Soil and Water Resources here in the CNMI. Furthermore, it is the ultimate

goal of this program to reduce the demand for imported food commodities, as farmers are better able to supply these commodities with improved soil and water quality.

9. Scope of Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other than formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	1.0	0.0	0.8	0.0
2008	1.0	0.0	0.8	0.0
2009	2.0	0.0	1.8	0.0
2010	2.0	0.0	1.8	0.0
2011	2.0	0.0	1.8	0.0

Outputs for the Program

13. Activity (What will be done?)

Demonstration/research project will be introduced as learning tools. To maximize the exposure of the demonstrations themselves, an educational video series will be produced whenever possible. Efforts will be made to either receive free or purchase airtime on the local cable TV station to maximize viewer exposure to the educational video series. Furthermore, a goal of this program will be to supply video rental stores with these educational videos for increased viewer numbers. Still photography will also be used to document research and demonstration projects for use in publications (brochures and fact sheets) and presentations to be produced and dissemination through informational seminars and lectures. Farmer-type gatherings such as association meetings, soil and water conservation district meetings and forums will be targeted. Students from the grade school, high school and college will also be involved in activities and presentations when ever possible.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
<ul style="list-style-type: none"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 (Presentation, Field Days) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites

15. Description of targeted audience

Government /Agency Collaborators
 All farm crop producers and farm helpers in the CNMI
Business operators that promote or sell farm products
 Grade school, High School and College students
 Adult Volunteer Leaders (4-H Clubs)

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	100	500	100	500
2008	100	500	100	500
2009	100	500	100	500
2010	100	500	100	500
2011	100	500	100	500

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of research projects completed on Soil and Water Quality Issues

2007 Target: 0
 2008 Target: 1
 2009 Target: 1
 2010 Target: 2
 2011 Target: 2

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of households recycling aluminum cans or other recyclable commodities such as paper and plastic

Outcome Type: Long

2007 Target: 15
2008 Target: 20
2009 Target: 30
2010 Target: 40
2011 Target: 50

Outcome Text

Number of households learning to safely use Rain-catchments systems

Outcome Type: Long

2007 Target: 2
2008 Target: 4
2009 Target: 6
2010 Target: 8
2011 Target: 10

Outcome Text

Number of farmers using Dry Litter Waste Management Systems for Hogs

Outcome Type: Long

2007 Target: 2
2008 Target: 4
2009 Target: 8
2010 Target: 12
2011 Target: 16

Outcome Text

Number of farmers or members of the community learning to compost animal wastes, yard scraps, etc...

Outcome Type: Long

2007 Target: 15
2008 Target: 20
2009 Target: 30
2010 Target: 40
2011 Target: 50

Outcome Text

Number of farmers using Sustainable Agriculture techniques (best management practices) such as cover cropping, mulching, rotational grazing, no-till farming, composting, etc...

Outcome Type: Long

2007 Target: 2
2008 Target: 6
2009 Target: 10
2010 Target: 15
2011 Target: 20

20. External factors which may affect outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Competing Public priorities

Description

Extreme economic downturn which might affect manpower availability; excessive turnover of technical staff involved in this program; and unavailability of needed facilities and equipment to conduct research

21. Evaluation studies planned

- Before-After (before and after program)
- During (during program)

Description

Best management practices utilized or tested will be monitored before and after, and during the program for both control and treatment tests.

22. Data Collection Methods

- Sampling
- On-Site
- Observation
- Tests

Description

Farms, Farmers and people within the community will be questioned, observed and documented before and after having implemented the said technologies.

Soil and water will undergo laboratory tests under sampling method and be subjected for analysis depending on the objectives of the research.

1. Name of the Planned Program

Expanded Food and Nutrition Education Program (EFNEP)

2. Program knowledge areas

- 703 Nutrition Education and Behavior 45 %
- 724 Healthy Lifestyle 45 %
- 712 Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxi 10 %

3. Program existence

- Mature (More than five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

EFNEP uses a variety of educational methods to help limited resource families and youth improve the quality of their diets, handle food safely, stretch their food dollar and increase their physical activity, resulting in behaviors that are conducive to bringing about improved health and food security.

6. Situation and priorities

According to the World Health Organization (WHO), the indigenous Chamorros and Carolinians have the third highest rate of Type II Diabetes in the world. The CNMI is feeling the affects of the double-burden of malnutrition as evidenced by a survey undertaken by the University of Hawaii, Northern Marianas College-Cooperative Research, Extension, and Education Services (NMC-CREES), and CNMI Department of Public Health during the summer of 2005; in which, 17% of children 5-11 years old had hemoglobin less than 11.5 (anemia, based on WHO cutoffs). Yet, 13% of males and 14% of females within the same age group had cholesterol levels greater than 200. One out of three school-aged children are diagnosed as either overweight or obese. A contributing factor for the rate of obesity among school children, is CNMI Public School System no longer requiring physical education? In 1997, data showed that 87% of infants were breastfed for at least two months. According to the 2005 survey data, only 46% of infants were breastfed for at least 2 months: an alarming decrease of 41%. It is critical that we intervene as early as possible: during planning for pregnancy, pregnancy, and early childhood. These are long-term issues in the CNMI that require a holistic approach in order to maximize positive behavior changes.

7. Assumptions made for the Program

EFNEP will continue to work with collaborators as well as with regional partners from Pacific institutions of higher learning and others whose work relates to improving healthy living. The program intends to increase the CNMI's capacity in the areas of research-driven physical activity (PA) promotion, monitoring and evaluation of PA intervention, nutrition education, and breast-feeding education. Additional FTE funding available.

8. Ultimate goal(s) of this Program

The program will enhance and encourage behavior related to nutrition, physical activity, and food security. Additionally, the program seeks to bring about environmental and policy changes that are conducive to healthier living.

9. Scope of Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	8.0	0.0	0.0	0.0
2008	8.0	0.0	0.0	0.0
2009	9.0	0.0	0.0	0.0
2010	9.0	0.0	0.0	0.0
2011	9.0	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

{NO DATA ENTERED}

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
<ul style="list-style-type: none"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 () 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites

15. Description of targeted audience

{NO DATA ENTERED}

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
2008	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
2009	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
2010	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
2011	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	{NO DATA ENTERED}
2008	{NO DATA ENTERED}
2009	{NO DATA ENTERED}
2010	{NO DATA ENTERED}
2011	{NO DATA ENTERED}

18. Output measures

Output Text

Output Target: Number of presentations and classes to be held.

2007 Target: 20
 2008 Target: 25
 2009 Target: 30
 2010 Target: 35
 2011 Target: 40

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Increase physical activity among families who enroll in EFNEP (at least 30 minutes of moderate intensity activity most days of the week);

Outcome Type: Long

2007 Target: 80
 2008 Target: 80
 2009 Target: 90
 2010 Target: 100
 2011 Target: 100

Outcome Text

Increased quality of diets, including the increased consumption of locally grown produce;

Outcome Type: Long

2007 Target: 80
 2008 Target: 80
 2009 Target: 90
 2010 Target: 90
 2011 Target: 100

Outcome Text

Increased food security among economically challenged households

Outcome Type: Long

2007 Target: 80
2008 Target: 80
2009 Target: 90
2010 Target: 90
2011 Target: 100

Outcome Text

Increase participation in our program, as well as other programs offered by our internal and external linkages.

Outcome Type: Long

2007 Target: 80
2008 Target: 80
2009 Target: 90
2010 Target: 90
2011 Target: 100

20. External factors which may affect outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Competing Public priorities

Description

Although we have no control over the external factors mentioned, we will do our best to be efficient and effective in reaching our outcomes. Collaboration is a key component of reaching our outcomes; this external factor is more concerned with interagency collaboration vis-a-vis internal collaboration

21. Evaluation studies planned

- Before-After (before and after program)
- Other

Description

· Pre and post evaluation

This will be incorporated into the PA questionnaire; it will be administered before and after the PA Social Marketing Campaign to assess the effectiveness of the campaign.

· Process evaluation

This will be used to gauge the NCD-related (Task Force and Strategic Plan creation). It will also be used to monitor policies conducive to improving health that have been created as a result of the NCD Strategic Plan.

22. Data Collection Methods

- Whole population
- Observation

Description

A variety of methods will be used to collect data. The population questionnaire will be used to establish baseline data in the area of physical activity practices among adults. Observation will be used to assess whether there has been an increase in the utilization of the Beach Road Pathway and other areas of interest.

1. Name of the Planned Program

CNMI Families, Youth and Communities Enrichment Program

2. Program knowledge areas

- 802 Human Development and Family Well-Being 10 %
- 801 Individual and Family Resource Management 40 %
- 806 Youth Development 50 %

3. Program existence

- Mature (More than five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The economy of the Commonwealth of the Northern Mariana Islands (CNMI) continue to decline with unemployment rate at its highest since 2002. Despite CNMI economic problem, its population continue to grow.

More people than ever are struggling to “make ends meet” and are looking for better ways to more effectively manage their money and limited resources. The Community Resource Development Program will aim to decrease our community’s reliance on outside sources for household goods via the home canning/food preservation, container gardening, family financial management, arts and local handicrafts and sewing programs for families with limited resources.

NMC 4H/Youth Development program will help youth develop life skills that will help them become more productive and responsible adults. These life skills include developing positive self-concepts, establishing effective interpersonal relationships, and learning practical skills for life. The 4-H Extension agents will serve as advisors and will monitor Youth Loan recipients with their actual implementation and progress with their small business development.

6. Situation and priorities

The CNMI revenue relies heavily on tourism and the garment factories. Revenue generated from tourism fluctuated but still considered to be very low and many garment factories had already shut down and relocated to other U.S. soil in order to avail to U.S. import/export benefits. The CNMI government has frozen all vacant positions and our law makers had passed resolution supporting the Governor’s proposal to cut employees’ salaries by 10% come June 2006.

Recruitment of adult volunteers and the lack of recreation facilities for CNMI youths are believed to have contributed to the increased number of juvenile delinquency. Some youths are not interested in after school programs, especially if activities are academic in nature. Many youths would rather spend time playing video games or watching television. NMC-CREES, the University of Hawaii and CNMI Department of Public Health Services conducted a survey during the summer of 2005 and the result was alarming. A child spent an average of 4 hours watching television a day.

The home canning and food preservation program will be combined with the container gardening program so that the home canning and food preservation programs will not be limited to those with farms and land. An increased knowledge of financial management information will also be found throughout the community via a community wide campaign on “developing a budget, budgeting your food stamps and smart shopping”.

7. Assumptions made for the Program

Decreased reliance on outside sources for household items – i.e. more CNMI residents will be canning and preserving food for home consumption and sewing their families clothes and household items. Increased community knowledge on issues related to financial management and hands-on training for developing skills in the arts of making local handicrafts to be sold in gifts shops throughout the three most populated islands of Saipan, Tinian and Rota.

The number of 4-H Clubs in schools and villages in the CNMI will increase as well as the number of adult

volunteers for the 4-H Club leaders. The Program will acquire government's own facilities for Youth Centers so that youth will have facilities to go to after school and be able to interact with other youths. Additional FTE's funding available.

8. Ultimate goal(s) of this Program

The ultimate goal is to improve the quality of life for all CNMI residents by understanding and addressing our immediate community needs as well as breaking the cycle of social problems often caused by a lack of knowledge and self-worth.

This program will also continue to promote 4-H values of Head, Heart, Health, and Hands. It will further recruit and train the adult volunteers to work with our youths and help them become better citizens.

9. Scope of Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other than formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	10.0	0.0	0.0	0.0
2008	10.0	0.0	0.0	0.0
2009	11.0	0.0	0.0	0.0
2010	11.0	0.0	0.0	0.0
2011	11.0	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Staff training/certification to be provided by USDA representative on the methods of SAFE home canning and food preservation to all Family and Consumer Sciences staff on the islands of Saipan, Tinian and Rota. Numerous community workshops will be provided by trained staff on the islands of Saipan, Tinian and Rota on the safe and effective methods of home canning and food preservation. Sewing Classes for Beginners will be offered on all three islands of Saipan, Tinian and Rota and certification of successful completion will be issued upon graduation. Workshops on self-esteem, team building, team work, goal settings, leadership skills, time management, life skills, youth and adults money management will also be offered on the islands of Saipan, Tinian and Rota.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
<ul style="list-style-type: none"> ● Education Class ● Workshop ● Demonstrations ● Other 1 (Village Meetings) ● Other 2 (Afterschool Activities) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites

15. Description of targeted audience

Kids (6-7)
 Youth (8-17)
 Youth Leaders (18-21)
 Adult Volunteers for Leaders
 Economically Disadvantaged
 Senior Citizens (Man Am'ko)
 Caregivers for the elderly
 General Public

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	200	1000	1000	3000
2008	200	1000	1000	3000
2009	350	1500	2000	4000
2010	400	2000	3000	5000
2011	500	2000	3000	5000

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of Youth and Adults completing Money Management and Family Financial Management workshops.

2007 Target: 175
2008 Target: 175
2009 Target: 175
2010 Target: 200
2011 Target: 200

Output Text

Number of 4-H Clubs established in the CNMI

2007 Target: 3
2008 Target: 4
2009 Target: 5
2010 Target: 6
2011 Target: 7

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of participants completed workshop and training on home canning and food preservations.

Outcome Type: Long

2007 Target: 100
2008 Target: 100
2009 Target: 150
2010 Target: 200
2011 Target: 200

Outcome Text

Number of participants applying knowledge gained. (Home canning and food preservation)

Outcome Type: Long

2007 Target: 50
2008 Target: 50
2009 Target: 75
2010 Target: 100
2011 Target: 100

Outcome Text

Number of youths and adults successfully completing the Sewing for Beginners on the islands of Saipan, Tinian and Rota.

Outcome Type: Long

2007 Target: 150
2008 Target: 150
2009 Target: 175
2010 Target: 200
2011 Target: 200

Outcome Text

Number of youth and adults applying knowledge gained and sewing for their families.

Outcome Type: Long

2007 Target: 75
2008 Target: 75
2009 Target: 100
2010 Target: 100
2011 Target: 150

Outcome Text

Number of youths and adults completing workshops on Youth and Adult Money Management.

Outcome Type: Long

2007 Target: 100
2008 Target: 150
2009 Target: 200
2010 Target: 250
2011 Target: 300

Outcome Text

Number of youths and adults applying knowledge gained.

Outcome Type: Long

2007 Target: 50
2008 Target: 75
2009 Target: 100
2010 Target: 125
2011 Target: 150

Outcome Text

Number of Adult Volunteers Recruited.

Outcome Type: Long

2007 Target: 5
2008 Target: 10
2009 Target: 15
2010 Target: 20
2011 Target: 25

Outcome Text

Number of Youth Participating in the 4H/Youth Development Program

Outcome Type: Long

2007 Target: 2500
2008 Target: 2500
2009 Target: 3000
2010 Target: 4000
2011 Target: 5000

20. External factors which may affect outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Competing Public priorities

Description

Natural disasters such as typhoons, flooding, drought and other extreme weather conditions and extreme economic downturn which might affect manpower availability; excessive turnover of technical staff involved in this program; and unavailability of needed facilities and equipment to conduct research

21. Evaluation studies planned

- After Only (post program)
- Before-After (before and after program)
- Other

Description

Program evaluation will be done before and after the activity. Mostly after youth activities.

22. Data Collection Methods

- On-Site
- Observation
- Other

Description

Data collected on-site survey and program/project observation and also home visits.

1. Name of the Planned Program

Diet, Physical Activity, and Health

2. Program knowledge areas

- 703 Nutrition Education and Behavior 50 %
- 724 Healthy Lifestyle 50 %

3. Program existence

- New (One year or less)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

Diet, Physical Activity, and Health is a program that will use scientific evidence and best practices recommendations/models to bring about changes that are conducive to improved health at the population level. Policy and environmental approaches and interventions in relation to diet, physical activity, and health promotion are the main focus of this program.

6. Situation and priorities

According to the World Health Organization the indigenous Chamorro and Carolinian populations within the CNMI have the third highest rate of Type II diabetes in the world per capita. Additionally, Atherosclerotic diseases is another leading cause of death. Obesity, a major risk factor for chronic diseases, is widespread among the adult population. Unhealthy diet, sedentary lifestyle, and tobacco use are major risk factors that contribute to the early onset and complication of the aforementioned diseases. Awareness of the underlying causes of chronic diseases are lacking in the CNMI. As a result of a lack of awareness, the majority of the population do not have the behavior-related knowledge needed to make lifestyle changes. While the majority of community efforts have been focused on diet, there is a demonstrated need to focus on the health benefits of physical activity. Currently, the CNMI lacks its' own dietary and physical activity guidelines. Uniform guidelines are needed for not only consistency of messages being propagated to the community, but to guide policy development as well. There is an urgent need for population-wide interventions in the areas of diet, physical activity, and health promotion (policy and environmental interventions).

7. Assumptions made for the Program

Diet, Physical Activity, and Health Promotion will work with various agencies and diverse stakeholders as well as with regional partners from Pacific institutions of higher learning and others who can contribute to bringing about healthier living. The program intends to use its policy and environmental intervention strategies to compliment the efforts of existing educational programs (EFNEP & FSNEP). We assume that more awareness of the burden of lifestyle disease will result in increased community action to curb the incidence of such diseases.

8. Ultimate goal(s) of this Program

This program seeks to bring about population-wide interventions that will result in an increase in positive behaviors relating to diet and physical activity; thereby reducing the burden of lifestyle diseases.

9. Scope of Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other than formula funds or state-matching funds

- No

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	1.5	0.0	1.0	0.0
2008	1.5	0.0	1.0	0.0
2009	2.0	0.0	1.0	0.0
2010	2.5	0.0	1.0	0.0
2011	2.5	0.0	1.0	0.0

Outputs for the Program

13. Activity (What will be done?)

- Development of CNMI dietary guidelines
- Development of CNMI physical activity guidelines
- Social marketing/awareness campaign on the burden of non-communicable diseases/lifestyle diseases and role of diet and physical activity in NCD prevention
- Establishment of CNMI Non-Communicable Disease Control Task Force
- Development of Non-Communicable Disease Control Strategic Plan (guide for policy development and environmental strategies)

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
<ul style="list-style-type: none"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 (Est. of NCD Task Force) ● Other 2 (Est. of NCD Strategic Plan) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● Billboards ● TV Media Programs ● Web sites ● Other 1 (Culturally approp. brochures)

15. Description of targeted audience

The target audience includes the general public, with a particular emphasis on areas of the islands that have a majority of its' residence at or below the poverty level. Taking into consideration social-economic status, educational attainment, and lifestyle (diet, physical activity, tobacco) the majority of the general population can be considered "at risk".

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	75	1000	100	1000
2008	100	5000	100	1500
2009	125	6000	150	2000
2010	150	7000	150	2000
2011	175	7000	175	2000

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Diet, Physical Activity, and Health

2007 Target: 3
 2008 Target: 2
 2009 Target: 1
 2010 Target: 1
 2011 Target: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Development of Physical Activity Social Marketing Campaign (PASMCM)

Outcome Type: Short

2007 Target: 1
 2008 Target: 1
 2009 Target: 1
 2010 Target: 1
 2011 Target: 1

20. External factors which may affect outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Competing Public priorities
- Other

Description

Although we have no control over the external factors mentioned, we will do our best to be efficient and effective in reaching our outcomes. Collaboration is a key component of reaching our outcomes; this external factor is more concerned with interagency collaboration vis-a-vis internal collaboration.

21. Evaluation studies planned

- Before-After (before and after program)
- Other

Description

· Pre and post evaluation

This will be incorporated into the PA questionnaire; it will be administered before and after the PA Social Marketing Campaign to assess the effectiveness of the campaign.

· Process evaluation

This will be used to gauge the NCD-related (Task Force and Strategic Plan creation). It will also be used to monitor policies conducive to improving health that have been created as a result of the NCD Strategic Plan.

22. Data Collection Methods

- Whole population
- Observation
- Other

Description

A variety of methods will be used to collect data. The population questionnaire will be used to establish baseline data in the area of physical activity practices among adults. Observation will be used to assess whether there has been an increase in the utilization of the Beach Road Pathway and other areas of interest.