

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Aquaculture and Fisheries Development Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	20%		10%	
307	Animal Management Systems	60%		80%	
308	Improved Animal Products (Before Harvest)	20%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	1.0	0.0
Actual	1.8	0.0	1.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
89743	0	102483	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Aquaculture and Fisheries Development (AF&D) program during this reporting period conducted

research on production of several aquatic species of interest. Efforts are currently underway to conduct workshops and demonstrations on the production of these aquatic species while being the role model in showcasing the importance of bio-security controls that will help farmers protect their fish and shrimp investments. Because of our increased exposure via our extension efforts and the success of our constituents, aquaculture is now being viewed by many as a viable industry and should be further explored. This was the resounding sentiment at the recent CNMI Economic Summit. With this resurgence of interest, we predict the further expansion of our program offerings as well as the level of our research commitment in this area of science.

Due to stakeholder interests initial trials of tropical abalone, various mullet families, milkfish, and rabbit fish grow out were performed and continued efforts on their production methods are still being showcased at our As Terlaje wet laboratory. The following are the specific activities that were performed during FY 2010:

- As a result of their larger body mass when compared to marine shrimp, our department conducted concurrent research on growing freshwater prawns through inland tank culture with emphasis on semi-intensive to super-intensive systems.
- The AF&D program also started a grow-out project of native, Blue spot and Yellow Tail mullets. Two thousand mullet juveniles were captured from the shores of Saipan and stocked in a Re-circulating Aquaculture System (RAS) raceway. The project intends to investigate whether wild caught mullets can be stocked and grown in a RAS and raised with formulated feed.
- An aquaculture producers association was formed to promote and improved the aquaculture industry in the CNMI. The intention of such unification is to maximize efforts at importing feed and aquaculture related equipment by serving as a purchasing cooperative. Nineteen Tilapia and shrimp farmers comprise the membership of the CNMI Aquaculture Producers Association (CAPA).
- A sustainable Tilapia production workshop featuring Dr. Kevin Fitzsimmons, a renowned researcher in the field of tilapia was conducted in 2010. The workshop was conducted as a result of the advancements in the production methods of aquaculture.
- A stakeholders meeting to gather input from the CNMI community was held in Saipan, Tinian, and Rota for the development of the CNMI, 5-Year, Aquaculture Strategic Plan.

2. Brief description of the target audience

- All aquaculture producers in the CNMI
- Retirees looking at new opportunities
- Entrepreneurs
- Non Government Organizations (NGO)

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	60	1000	100	1500
Actual	361	5000	717	8000

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	1	1	
Actual	1	1	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Research Projects completed on aquatic species production

Year	Target	Actual
2010	1	1

Output #2

Output Measure

- Number of Aquaculture Workshops

Year	Target	Actual
2010	4	7

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of farmers learning how to produce new aquatic species

Outcome #1

1. Outcome Measures

Number of farmers learning how to produce new aquatic species

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	91

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

High Production Cost, i.e., feed, energy

What has been done

- testing alternative energy systems like solar to reduce energy cost
- looking into locally made feed using locally available ingredients

Results

- helped farmer get WSARE farmer rancher grant to test solar panels to power aquaculture aeration equipment
- wrote a WSARE PDP proposal for capacity building on making feed locally

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Government Regulations
- Competing Programmatic Challenges
- Other (shipping difficulties,)

Brief Explanation

- Reduced airline flights into the CNMI has made it even harder to import seedstock to stock culture tanks. Flights reduced as a result of low demand in visitors coming to the CNMI.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Other (client visitations)

Evaluation Results

Key Items of Evaluation