

2010 University of Puerto Rico Extension Annual Report of Accomplishments and Results

Status: Accepted

Date Accepted: 06/21/2011

I. Report Overview

1. Executive Summary

This accomplishment report covers the period from October 1, 2009 to September 30, 2010. During this fiscal year, the Puerto Rico Agricultural Extension Service (PRAES) used 174.47 FTEs, a reduction of 10.3 FTEs of the 184.5 planned for FY 2010-2014. This reduction was due to personnel retirement. These positions were not filled due to economic restrictions in our budget.

The goals met in our 2010 POW were due to short courses training, the use of mass media, and communications technology, such as the internet, which was used for distance training.

PRAES signed multiple agreements and/or made collaborative efforts throughout the island during fiscal year 2009-2010. Public entities; non-profit organizations; public and private universities in and outside of Puerto Rico; local, state, and federal organizations; community organizations; radio and television stations; and the press participated with PRAES to achieve various goals ranging from agriculture to family and community concerns.

In order to use resources more effectively and reduced the paper burden to comply with the paper reduction act during FY 2009 PRAES consolidated its planned programs from 16 to 7. These are as follow: (1) Strengthening Youth Life Skills, Leadership and their Community; (2) Human Health and Well-Being/Nutrition/Food Safety; (3) Plant System; (4) Families and Children/Consumer Education and Individual and Family Resources (5) Management of Rangeland and Forestry Resources/Soil, Water, and Air; (6) Animal Systems; (7) Community Resources Development by Means of Fostering Sustainable Communities.

1. Strengthening Youth Life Skills, Leadership and their Community

During 2010, the Strengthening Youth Life Skills, Leadership and their Community dedicated 37.62 FTEs.

The Puerto Rico 4-H and Youth Development Program has identified Youth Development as a mayor emphasis area for its long-range educational program. It is designed to provide youth with positive opportunities to learn and interact with peers and adults, provide leadership development, and focus on the enhancement of life skills through research-based educational programs focusing on Healthy Lifestyles, Science, Engineering and Technology, Civic and Leadership.

During 2010, 15191 children/ youth participated in life skills and subject matter educational programs designed to teach basic life skills and 4,641 demonstrated thinking managing skills (decision making, problem solving, planning, organization and service learning, according to the Targeting Life Skills Model).

Two thousand five hundred and eighty-six (2,586) children/youth demonstrated improved relating skills (communication); 4,933, improved giving and working skills (leadership, community service volunteering, teamwork); and 1, 679, improved being and living skills (self-esteem and healthy lifestyle choices).

Through the methodologies of focus groups, on-site observations and structured interviews, a study was conducted which evaluated the strengths and weaknesses of the 4-H program in order to improve the effectiveness of our educational strategies. Findings indicate that 4-H clubs offered a variety of educational activities through diversity of educational methods and offered ample participation to its members through experiential learning experiences.

2. Human Health and Well-Being/Nutrition/Food Safety

In 2009 PRAES consolidated the Human Health and Well Being, Nutrition and Food Safety planned programs into one single planned program. During 2010 we used 22.52 FTEs in this planned program.

In the Human Health and Well-being component we promoted healthy lifestyles for people in both rural and urban areas, and address high risk factors through the prevention and early detection of diseases, the prevention of injuries and disabilities, and the appropriate use of the health care system (promoting the development of self-care skills).

The Nutrition component is based on the idea that a healthy body feels good and looks good, no matter what its size. The basic attitude developed is: "I inherited a unique, complex, and attractive body. I will make sure it is as healthy as possible."

Of 3,648 persons that completed a nutrition course, 3,101 (85%) adopted one or more of the recommended practices for a healthy diet.

The goal of the Food Safety component is "To improve food safety through the control, reduction or elimination of contamination risks". Its main components are the following: A) The "Fight BAC!" campaign, for consumers; B) The Food Safety Certificate course, for persons in charge of food establishments; and C) Train-the-trainers, for university personnel and professionals from other government agencies and organizations.

PRAES home economists offered Fight BAC short courses, which are custom made to the needs of the audience in Puerto Rico. The home economists also incorporated these lessons to their food demonstrations and other food preparation courses.

After completing the Food Safety educational curriculum's "Fight BAC" course, 1,039 (83%) of 1,253 consumers reported having adopted at least one safe food handling practice. Among the practices adopted were hand washing (92%), 87% reported that they cooked food to the recommended cooking temperatures, but only 48% reported that they actually used a food thermometer, 97% cleaned and sanitized surfaces, 83% avoiding cross contamination, and 65% reduced holding time to two hours

The Puerto Rico Health Department (PRHD) adopted the Food Code in 2000. According to the PRHD, all persons in charge of food establishments are required to renew the course every three years in order to stay updated in any change in regulations. The main objective of the PRHD is to reduce outbreaks due to foodborne illnesses through a coordinated educational effort with the PRAES.

The Food Safety course, which consists of 13 lessons, was offered by 17 trained home economists and health inspectors throughout the island. The inspectors talked about the regulatory agency and what they expect from the food establishments. One of the lessons of the course is Food Defense is offered by FDA personnel.

As a result of this collaborative effort, 3,307 (98%) participants approved the certification exam with 70% or more.

Of the 3, 449 persons in charge of food establishments completing Food Safety Course 2,185 (66%) adopted three or more of 20 selected safe food handling practices, 80%, informed that they washed their hands when changing tasks or food items; 78%, reported that they have separate cutting boards; 63%, used food thermometer to measure temperature of PHF during exhibition and maintain proper holding temperatures; 85%, wash and sanitize equipment properly; and 70%, used food thermometer to measure food temperatures.

3. Plant Systems

The planned programs Crop Production; Economics, Marketing and Policy; Engineering and Biosystems; and Plant Protection were consolidated into one single program called Plant Systems. A total of 30.33 FTEs were dedicated to this planned program.

An economically profitable and progressive agriculture requires efficient crop production management practices, a plant protection program, efficient engineering and biosystems practices, and a good planned program in economics, marketing, and policy.

The main crop production problems faced by farmers are product quality and the poor use of adequate crop cultivation practices. With rising pesticide costs and growing public concerns about pesticide residues in food and the contamination of surface and groundwater supplies, farmers are trying to reduce their reliance on chemicals to control pests and diseases. The adoption of the IPM approach is essential to reduce the negative impacts associated with pest control.

PRAES agents trained 14,510 persons on plant management, products quality, value-added, pesticide use, IPM, pesticide application, and commercial pesticide application.

Number of waste management systems designed.

4. Families and Children/Consumer Education and Individual and Family Resources

The planned programs Families and Children, Consumer Education and Individual and Family Resources Management were consolidated into one single planned program. During FY 2010 we dedicated 19.36 FTEs to this planned program.

This planned program targets families, children, youth, elderly people, new couples, and employees of the public and private sectors. Its goal is to develop educational programs to empower families to nurture, support, and guide their members throughout their lives and motivate them to improve their quality of life and well-being by increasing their financial well-being through knowledge, skills and self-confidence.

Through the educational efforts of the Families and Children/Consumer Education and Individual and Family Resources, 1,656 persons were trained in parenting and related areas; 587 of this reported improved parenting skills.

In the Sabana Community of the Municipality of Guaynabo where there was a high incidence of child abuse and negligence 20 families were referred to the PRAES by the Department of the Family. These families participated in the course Successful Parenting to develop strategies of healthy child rearing models. They participated in eight educational interventions, which covered the following subjects: class of parents, communication, self-esteem, positive discipline, family strengths, stress management, management of emotions, and protective factors to prevent domestic violence.

As a result of these interventions, 15 parents improved their family relations with their children and 80% reported being able to control their emotions and deal with family conflicts. The Department of the Family continues referring high risk families to PRAES to help them obtain the necessary tools and skills

for healthy child rearing.

Five hundred and eighty-one persons gained knowledge in aging aspects of 846 persons trained.

Eight hundred and sixty eight (868) consumers completed the Consumer Education course, 782 adopted savings practices through goods and services selection process. In Family Resource Management, 1,059 completed the individual and family resource management course. Four hundred and eighty-five (485) consumers adopted debt reduction practices, 603 adopted practices on how to save, and 95 improved their financial well-being,

5. Management of Rangeland and Forestry Resources/Soil, Water, and Air

The Management of Rangeland and Forestry Resources planned program was consolidated with the Soil, Water, and Air planned program. During 2010 we dedicated 11.00 FTE to this planned program.

The planned program Management of Rangeland and Forestry/Soil, Water and Air is devoted to promoting the education of farmers and people related with agriculture through activities addressed to establish conservation practices to promote the protection of our forests, trees, and watersheds; increase appropriate fertilization practices, conserve water, and mitigate emissions of particles from agricultural practices to the air. We emphasize on better soil management on the flood plains, the recharge of groundwater, and new alternatives to ensure compliance of air and water quality regulations.

Range farmers and dairy farmers concerned with the high cost of concentrated feeds explored other alternative to reduce their feed expenses. The Puerto Rico Agricultural Extension Services (PRAES) and the Natural Resources Conservation Service (NRCS-USDA) joined efforts to help farmers to improve their pastures adopting best management practices. PRAES personnel developed several trainings to inform, promote and encourage the adoption of management practices to improve pastures and reduce costs. Rotation practices, renovation of forage species and control of weeds were some of the practices promoted among farmers.

As a result, a total of 18.9% (55) of the 291 farmers trained on range management improved their pastures and a better selection of forage species helped to improve livestock performance due to the increased forage protein quality and yields.

Due to the high rate of erosion and to the fact that we are losing available land suitable for agriculture and forest lands, the watersheds, rivers, and coral reefs in Puerto Rico are being greatly affected. To deal with this problem PRAES, NRCS-USDA and several government state agencies (Departments of Natural Resources and Environment, Aqueduct and Sewer Agency, others), joined efforts to train community members, farmers and students on the appropriate management to conserve our natural resources (soil, water, and air) and forests as a way to control soil erosion and deforestation and preserve our lands

As a result, a total of 7.5% of 1,748 persons trained were impacted and adopted one or more practices on natural resources and forest conservation. Community groups, students, and farmers around the island accepted the challenge and adopted practices on their farms, communities, and schools. Watershed protection, recycling of paper and waste material, and preparing compost were some of the practices adopted.

Another threat to the environment is global warming. In Puerto Rico watersheds and forests are being deforested sometimes for agricultural purposes, others for city or home development, increasing the sedimentation of rivers and streams and the potential for floods. Communities and citizens affected by changes in weather and climate patterns developed reforestation projects for pollution and soil erosion control and sedimentation of rivers and streams.

PRAES joined efforts with government agencies (Department of Natural Resources and Environment, Permits and Regulations Administration ("Administración de Reglamentos y Permisos-ARPE"), Natural Resources Conservation Service), non-government agencies, the community, and schools to promote and develop reforestation projects to enhance the natural environment around communities and help contribute to minimize the impact of soil and water erosion in our lands. As a result of these efforts, 41 reforestation projects were established.

6. Animal Systems

The Animal Systems planned program is composed of the Animal Production, Animal Protection, Economics, Marketing and Policy, and Economics, Marketing and Economics. A total of 22.64 FTEs were dedicated to this planned program.

Trainings were offered on better management practices for disease control and prevention, bio-security, animal welfare and protection, prevention of internal and external parasites, control of environmental stress, animal production, value-added animal products, and recordkeeping. They also visited farms to make on-site recommendations and follow-up on adoption of recommended practices, they also made recommendations of the use of superior genetic animals with greater resistant traits to diseases to increase production and profits.

In view of their need to improve production and reduce expenses in order to maintain their farms sustainable and productive, farmers adopted the recommended practices 199, 37% of the farmers increased their production.

The Extension agricultural engineering section has been developing friendly waste systems to protect the environment. Systems like animal manure composting, contour dishes and oxidation ponds are the ones implemented by farmers. With these systems the streams and watersheds are protected, saving the animals living in the waters and the ones surrounding it. Farmers were oriented the construction of these systems and regulations on waste management. Five hundred and six (506) farmers improved their waste management facilities.

7. Community Resources Development by Means of Fostering Sustainable Communities

The Empowering and Self-management Communities and Community Resources Development were consolidated to form the planned program Community Resources Development by Means of Fostering Sustainable Communities. During 2010, 31.00 FTEs were dedicated to this planned program.

This planned program focuses on the delineation of an effective program that will address Puerto Rico's most pressing social issues.

Puerto Rico Agriculture Extension Services (PRAES) Community Resources Development by Means of Fostering Sustainable Communities planned program has been working hard in developing community entrepreneurs who will create and expand local markets. The purpose of this educational effort is to help our clientele deal with the Islands collapsed economy and the high employment rate, mainly due to the implantation of Law 7 by the Government of Puerto Rico, which as lead to 30,000 plus layoffs of government employees.

Of 187 persons trained in community-based business, 141 applied the recommended practices. Once again the Orocovis municipality set the pace with the expansion of the entrepreneurial activity started last year and two new farmers' festivals were organized with the assistance of our local agricultural agent and home economist, providing resources and entrepreneur experience for the

development of local farmers' markets. The coastal town of Cataño, isn't far behind with its 4-H Club, which has been working hard in getting both artisanship and entrepreneurial training for youth challenged with a lack of work opportunities. The ecologist 4-H Group "Verdes de Corazón" (Green from the Heart) created a ceramic collage artisanship economic venture that has skyrocketed right from the beginning.

During the past two years we had over 350 new community leaders and individual member of communities exploring entrepreneurial initiatives and putting in place entrepreneurial skills. Economic ventures and business proposals are flourishing throughout all the Agricultural Extension Service regions thanks to the CRD's "Community's Entrepreneurial Toolbox".

The Puerto Rico Agricultural Extension Service has historically offered training opportunities in agriculture, and family sciences related activities that can empower stakeholders to create self-employment opportunities. The CRD "Community Entrepreneurial Toolbox" put in place the creation of community and family based micro-businesses and economic oriented initiatives are emerging. Many workers displaced by Law 7 are benefiting from PRAES' marketable skills and entrepreneurship training.

Our field personnel is widely training stakeholders on the "Community Entrepreneurial Toolbox" workshop series together with other marketable skills such as artisanship, craftsmanship, tailoring, children and elderly services, agricultural, and other related skills. This has led to an increase in the creation of 15 community and family based micro-businesses and economic oriented initiatives. The most outstanding example of business creation and consolidation is the "Verdes de Corazón" ceramic collage artisanship group, which was initiated as part of the Municipality of Cataño's 4H group. Through the home economist's mentoring this group began to participate in country and artisanship fairs, generating income that allowed them to establish a business. Recently, the Bacardi Corporation placed a \$10,000 order with Verdes de Corazon for a mural that will welcome international visitors to the Corporation Head Quarters in San Juan. Another dozen enterprises have been established ranging from baking and tailoring initiatives to farmers' markets and community gardens.

In addition to the present economic crisis, Puerto Rico is confronting great pressure due to the profound ecological footprint and high levels of food imports. In the CRD programmatic area we have stressed the need to help organize our communities to become more sustainable by promoting the development of community gardens, recycling, water conservation, and habitat restoration projects.

In La Plata Lake a project was established to clean and restore the basin and help preserve the critical habitat under the care of the U.S. Fish and Wildlife Service. Community garden projects have been established, among other local food production and conservation projects, in the towns of Hormigueros, Orocovis, Isabela, Las Piedras, San Germán, and Yabucoa. These communities established 47 demonstrative local food production projects that will serve as train-the-trainers facilities and provide mentorship to new communities.

The current economic crisis and government displacement of workers have also led to an interesting addition to the characteristics of community leaders and volunteers with an influx of displaced and early retired workers which have arrived to the AES offices, either seeking to spend their spare time in productive activities, or to increase their job marketability through added productive and human capital skills. The crisis has provided Puerto Rico AES with human capital and talent that are making the difference in community development and organization.

In the towns of Maunabo, San Germán, Las Piedras, San Lorenzo, Yabucoa, Caguas, Ponce, Toa Alta and Yauco, either retired or displaced workers have joined hands with AES field personnel to develop new farmers' development projects, as well as community organization and development projects that vary from conservation initiatives to health promotion and economic development ventures. As a result, 678 leaders participating actively in the design and implementation of community projects have revitalized the

communities' leadership and volunteer crew with experienced, disciplined and productive human capital.

Being increasingly susceptible to both man spawned (like the recent explosion of the obsolete Gulf Oil Refinery tanks in Cataño) and natural disasters (Puerto Rico is in the Caribbean Ring of Fire, thus prone to telluric movements and in the Caribbean hurricane alley), Puerto Rico urgently needs to prepare its population to deal with and manage emergencies.

Intensive training of field personnel have begun with the development of the Emergency Management workshop series by the CRD specialist Angélica Martínez and in the certification of over a dozen community leaders and volunteers as emergency plan managers. Fifteen new communities now count with emergency and safety plans and will serve as mentors to other communities in their municipalities.

EVALUATION OF MULTI JOINT ACTIVITIES

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

The most important source of stakeholder input in the Puerto Rico Agriculture Extension Service (PRAES), are the Local Advisory Committees where critical issues are presented and discussed together with Extension personnel and stakeholders. One of the most critical issues presented affecting the planned programs is the economic crisis added to higher unemployment rates. This affects all levels of our society, therefore the Family and Consumer Sciences planned programs (Families & Children/Consumer Education and Individual and Family Resources management, Human Health and Well-Being/Nutrition/Food Safety), as well as the Community Resources Development (CRD) planned program, have increased the educational opportunities in this area.

The CRD planned program developed a curriculum to promote community-based businesses and established multi-institutional collaboration between USDA Rural Development and PRAES so that communities can submit proposals to advance their entrepreneurial objectives.

The Family and Consumer Sciences' planned programs helped families to make better management of their income and other resources in order to make wiser decisions as consumers. Nutrition, emphasizing on a healthy weight, continued to be a critical issue addressed by the nutrition planned program where families learned to use the Food Guide Pyramid to improve their food habits.

The Four-H and Youth Development planned program (Strengthening Youth Life Skills, Leadership and Their Community) addressed all of these issues targeting our youth and 4-H members through different educational strategies and projects. 4-Hers are recognized as an important stakeholder group in PRAES and during major state activities, 4-Hers are asked to share their views of the critical issues affecting our youngsters. Risky behaviors (such as alcohol/drugs consumption, and sexual behaviors) continued to be major critical issues among our youth, therefore continued emphasis was placed on these topics.

In the agricultural sector (Plant Systems, Animal Systems, Management of Rangeland and Forestry Resources/Soil, Water and Air), continuous commodity meetings were conducted in collaboration with the Agricultural Experimental Station to discuss issues of critical importance for farmers. Special emphasis was given to the integrated pest management systems and to the control of the coffee grain borer and citrus greening, as these were critical issues presented by the farmers.

2) How will the planned programs address the needs of under-served and under-represented

population of the states?

During 2010, emphasis was placed in integrating kids with special needs to the diverse educational contests offered by the Youth and 4-H planned program. In addition, a special project was developed that targeted this underserved population of youngsters in the area of physical activity and sports. Also, PRAES agents are collaborating with the Department of Education's "Independent Life Project" offering health related educational courses to this population.

The Family and Consumer Sciences planned programs' priority targeted groups include low income families, women heads of households, adolescent mothers, older adults, and individuals with physical disadvantages. Special projects such as the PREPAS (Puerto Rico Empower Parents to Raise Successful Children) project, as well as the Confronting Difficult Times and Self-employment curriculum, addressed these populations. The under-served audience of jail prisoners was also oriented through the projects "Parents on Wheels" and Food Safety.

In the agricultural sector, a major project "Small Farmer Outreach Training and Technical Assistance Program" targeted small farmers and the Women in Agriculture Initiative addressed the under-represented women farmers.

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

Every PRAES planned program described the expected outcome and impacts through outcome indicators reported in the Electronic Reporting System, which collects data throughout the Island. Impacts are collected through local and state success stories and reported in impact statements in the NIFA Annual Report. The great majority of the planned programs reported at least one impact statement, which focused on outcomes or changes in action and conditions. The Food Safety planned program emphasized the adoption of recommended practices. The Youth development planned program presented an increased in life skills for youth participating in the 4-H clubs that will equip them with the necessary skills to avoid risky behaviors. The Community Resource Development planned program had an increase in outcome measures such as the number of community-based businesses established. These are demonstrating progress towards achieving a long-term impact in improving the communities' economy and well-being in these times of economic crisis. The agricultural planned programs' outcomes focused on changes in action, which showed increases in adoption of recommended practices resulting in an increase in production.

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

PRAES planned programs continued to improve their efficiency through collaborative multi-institutional efforts with major agencies and institutions that work with similar audiences such as the PR Department of Agriculture, the Farm Service, Rural Development, NRCS, and Commodity Farmers Association. Specifically PRAES united efforts with the Agricultural Experimental Station where Extension agents and researchers work together in the organization of commodity meetings to discuss critical issues with farmers and other audiences related to agriculture. Various projects to address these issues are taking place in collaboration with PRAES. The planned programs developed new educational material according to the farmers' needs and organized fairs and mass media communication, including an electronic web page, to promote their activities. The Youth and 4-H planned program established a new collaboration to promote the establishment of cooperatives that will promote 4-H's mission and goals. In order to improve the effectiveness of the program, a process evaluation, that included methodologies such as focus groups, structured interviews and on-site observations, was conducted to identify the strengths and weaknesses of the program. In agriculture, a survey of farmers was conducted to describe the basic characteristics of today's farmers.

The planned programs will continue to be effective by increasing changes in knowledge, skills, practices and conditions in our participants, families and communities as they are focused on the most critical needs of our people. There will be continuous actualization and improvement of our educational material in order to address these critical needs. Planned program outcomes were designed to promote changes in action and continuous effort are given to progress towards changes in condition. Special emphasis has been placed in the five planned programs that address the national initiatives.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	184.5	0.0	0.0	0.0
Actual	174.5	0.0	0.0	0.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

- Internal University Panel
- External University Panel
- External Non-University Panel
- Combined External and Internal University Panel
- Combined External and Internal University External Non-University Panel
- Expert Peer Review
- Other

2. Brief Explanation

The Merit Review process was conducted through four committees, which represent the four major program areas: Agriculture, Marketing, and Natural Resources; Family and Consumer Sciences; Four-H and Youth Development; and Community Resource Development. Each committee is composed of Internal University and External Non-University panels. Each committee met at least twice during the year. In the first meeting, Extension staff presented the preliminary plan of work for the upcoming year and the committee members were asked to present their views and recommendations. The program area leaders, together with other Extension staff, defined educational strategies to address the recommendations, which were incorporated to the final POW, as needed. During the final committee meeting for 2010, the program area leaders presented an oral and written report that identified how the recommendations were addressed.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups

- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public
- Other

Brief explanation.

At the local level, the Local Advisory Committees' major task is to collect input from our local stakeholders. The committees are composed of at least two beneficiaries from each of the base program areas (Agriculture, Marketing and Natural Resources; Family and Consumer Sciences; Four-H and Youth Development; and Community Resource Development) and a minimum of two representatives of local agencies that work with similar audiences as Extension. The county agents used regular mail to invite potential members to participate in the committees. In the letters they described the importance of the process and their contribution to improve Extension educational programs.

2(A). A brief statement of the process that was 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
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys
- Other

Brief explanation.

The members of the local advisory committees were selected by the Extension agents from their target audience, based on their experience and participation in Extension programs, and were invited to join the committee by regular mail.

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

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups

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

Brief explanation.

The committees met twice during the year to discuss critical local issues and identify emerging issues that could be addressed by Extension. At these meetings, each local committee identified priority issues in each of the four program areas. To collect additional information from our youth participants 4-Hers participating at major activities at state level were asked to share their views on critical issues affecting them.

3. A statement of how the input will be considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities
- Other

Brief explanation.

In put collection from stakeholders at the local advisory committees was reported to the state level. This data was evaluated by state program leaders in order to identify emerging issues that should be included in the state plan of work or redirect programs when needed. In addition, at the local Advisory Committees, when farmers and other agricultural representatives identified issues that required or suggested a research agenda, these were referred to the Agricultural Experiment Station. At the local level, counties then set priorities for their local plan of work according to the stakeholders' input.

Brief Explanation of what you learned from your Stakeholders

During this fiscal year, the issues most mentioned by the stakeholders were related to the financial and economic crisis we have been facing during the past two years. They also identified social problems such as depression, domestic violence, a generalized sense of hopelessness, and physical and mental abuse of elderly people, which affect the whole population and have been increasing in amount and intensity as a result of this crisis and the high unemployment rate. The planned programs addressed these issues by strengthening the Family Values, Valuing the Elderly

Adult, and Community-based Business curriculums. Also, family values, drug and alcohol abuse, and violence among youth continue to be issues of major importance. The stakeholders expressed their satisfaction with Extension programs. However, they recommend that these areas should continue to be strengthened in our educational efforts.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
6326516	0	0	0

2. Totaled Actual dollars from Planned Programs Inputs				
Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	7339865	0	0	0
Actual Matching	3669933	0	0	0
Actual All Other	0	0	0	0
Total Actual Expended	11009798	0	0	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	0	0	0	0

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Strengthening Youth Life Skills, Leadership and their Community
2	Human Health and Well-Being/Nutrition/Food Safety
3	Plant System
4	Families and Children/Consumer Education and Individual and Family Resources
5	Management of Rangeland and Forestry Resources/Soil, Water, and Air
6	Animal Systems
7	Community Resources Development by Means of Fostering Sustainable Communities

Add previously unplanned program

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Strengthening Youth Life Skills, Leadership and their Community

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%			
	Total	100%			

Add knowledge area

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	39.3	0.0	0.0	0.0
Actual	37.6	0.0	0.0	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
1582655	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
791327	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

- Conferences or workshops training in life skills, leadership, and community services.
- Camping and outdoor activities.
- Curriculum developed in life skills, leadership and community service.

- Participate in mass communication to promote 4-H as a positive organization for youth.
- Projects where youth and adults volunteers can develop skills that will enable them to make a positive contribution to society.
- Competitive activities/events.
- Non-competitive activities/events.

2. Brief description of the target audience

Youth and 4-H members, Extension professionals, professional government personnel, volunteers, and community residents.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	6000	0	50000	15000
Actual	11855	0	87845	15774

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	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of training and workshops in life skills and subject matter.

Not reporting on this Output for this Annual Report

Year	Target	Actual
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2010 800 919

Output #2

Output Measure

- Number of children/ youth who participated in competitive activities.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	1000	2179

Output #3

Output Measure

- Number of children/ youth who participated in non competitive activities.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	5000	12011

Output #4

Output Measure

- Number of children/ youth who participated in life skills and subject matter educational programs designed to teach basic life skills.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	5000	15191

Output #5

Output Measure

- Number of children/youth who participated in scientific process training.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	800	339

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of children/youth who demonstrated thinking managing skills (decision making, problem solving, planning, organization and service learning, according to the Targeting Life Skills Model).
2	Number of children/youth who demonstrated improved relating skills (communication).
3	Number of children/youth who assumed demonstrated improved giving and working skills (leadership, community service volunteering, teamwork).
4	Number of children/youth who demonstrated improved being and living skills (self-esteem and healthy lifestyle choices).
5	Number of individuals applying science process skills, including incorporation of science learning in community service, enrollment in SET related post-secondary education, and entrepreneurship/career success.

Add Cross-cutting Outcome/Impact Statement or Unintended or Previously Unknown Outcome Measure

Outcome #1

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of children/youth who demonstrated thinking managing skills (decision making, problem solving, planning, organization and service learning, according to the Targeting Life Skills Model).

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2900	4641

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

806 - Youth Development

Outcome #2

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of children/youth who demonstrated improved relating skills (communication).

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1300	2586

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

806 - Youth Development

Outcome #3

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of children/youth who assumed demonstrated improved giving and working skills (leadership, community service volunteering, teamwork).

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1800	4933

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Today's children and youth face a diversity of social problems that can result in risky behavior when kids are poorly equipped with the necessary skills to prevent them. The children in Puerto Rico are not immune to these problems, which seem to have increased during the past years due to the general social deterioration caused by a poor economy, lax moral values, family decomposition caused by divorce and family instability among others.

What has been done

Knowing the importance of dealing with these problems from the root, by building stronger youngsters with basic skills to deal with their problems, the PRAES developed several activities and methods such as: camps, competitions, workshops and training.

Results

Of the 4-H youth participating in the activities, 4,933 youth demonstrated improved giving and working skills, as follow: 37% increased skills in team work, 47% acquired life skills in leadership, and 46% developed skills in community service volunteering.

4. Associated Knowledge Areas

- 806 - Youth Development

Outcome #4

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of children/youth who demonstrated improved being and living skills (self-esteem and healthy lifestyle choices).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
 Change in Action Outcome Measure
 Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1700	1679

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 806 - Youth Development

Outcome #5

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of individuals applying science process skills, including incorporation of science learning in community service, enrollment in SET related post-secondary education, and entrepreneurship/career success.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	800	719

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 806 - Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other

Brief Explanation

The people feel that we have an unstable economy. Changes in public policy due to the situation of the economy are expected.

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

(OPTIONAL SECTION)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other (Process Evaluation)

Evaluation Results

Through the methodologies of focus groups, on-site observations and structured interviews, a study was conducted which evaluated the strengths and weaknesses of the 4-

H program, in order to improve the effectiveness of our educational strategies. Findings indicate that 4-H clubs offered a variety of educational activities through diversity of educational methods and offered ample participation to its members through experiential learning experiences.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Human Health and Well-Being/Nutrition/Food Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	25%			
704	Nutrition and Hunger in the Population	15%			
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	25%			
724	Healthy Lifestyle	25%			
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	10%			
	Total	100%			

Add knowledge area

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	23.6	0.0	0.0	0.0
Actual	22.5	0.0	0.0	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
947405	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
473703	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

Puerto Rico's Agricultural Extension Service (PRAES) Food Safety planned program consists of various curriculums to attend the needs of different audiences.

In the Human Health and Well-being component we promoted healthy lifestyles for people in both rural and urban areas, and addressed high risk factors through the prevention and early detection of diseases, the prevention of injuries and disabilities, and the appropriate use of the health care system (promoting the development of self-care skills).

The Nutrition component is based on the idea that a healthy body feels good and looks good, no matter what its size. The basic attitude developed is: "I inherited a unique, complex, and attractive body. I will make sure it is as healthy as possible."

The goal of the Food Safety component is "To improve food safety through the control, reduction or elimination of contamination risks". Its main components are the following: (A) The "Fight BAC!" course, which originally contained the basic four steps for Fighting BAC, now has new additions like: How to handle food during emergencies; How to handle food during festivities; and How to handle fish and seafood. (B) Protect your Baby, curriculum which has been updated and also added a lesson for Moms-to-be. These lessons can be mixed up and offered according to the necessities of the audience attended and time of year. (C) The Food Safety Course, for persons in charge of food establishments, which is required by the PR's Department of Health; and D) Train-the-trainers, for the university personnel and professionals from other government agencies and organizations.

The educational activities developed were: Conference/training related to healthy lifestyles, diabetes, injury prevention, and indoor air quality, counseling in the areas of health and safety, continued working in partnership with other agencies to develop educational programs, and offered exhibits/community activities which emphasized the focus on "Healthy, no matter what my size or income".

2. Brief description of the target audience

PRAES consists of various curriculums that attend different audiences, according to their needs:

- The general Fight BAC curriculum, which targets general public,
- "Protect your baby" for Mothers-to-be and mothers with babies and toddlers.
- The Food Safety Course, which targets Food Managers and is required by Puerto Rico's Department of Health.
- PRAES also has a curriculum, which targets children from 5-8 years old: "My hands are clean... what

2010 2500 2556

Output #2

Output Measure

- Number of consumers completing Food Safety educational curriculum for consumers.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	1000	1253

Output #3

Output Measure

- Number of persons in charge of food establishments completing Food Safety Course.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	2500	3449

Output #4

Output Measure

- Number of people who completed a nutrition course that integrated one or more of the following topics: nutritional value of foods, healthy weight, food preparation, and food security.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	2500	3648

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of persons that reduced their risk levels upon the completion of one or more recommended practices on healthy lifestyles.
2	Number of persons that reduced their risk levels for a chronic disease upon the increase of physical activity in to their lifestyle.
3	Number of consumers that adopted one or more food handling practices.
4	Number of participants that approved the certification exam.
5	Number of participants that adopted three or more of 20 selected food handling practices recommended by the Food Code.
6	Number of people that adopted one or more of the recommended practices in the nutrition course.

Add Cross-cutting Outcome/Impact Statement or Unintended or Previously Unknown Outcome Measure

Outcome #1

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that reduced their risk levels upon the completion of one or more recommended practices on healthy lifestyles.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1500	2366

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and
- 724 - Healthy Lifestyle
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and

Outcome #2

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that reduced their risk levels for a chronic disease upon the increase of physical activity in to their lifestyle.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	900	910

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and
- 724 - Healthy Lifestyle
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and

Outcome #3

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of consumers that adopted one or more food handling practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1000	1039

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Food and Health Survey of 2010 indicates a significant decrease since 2008 in practices adopted by consumers: 89% of the consumers surveyed reported that they used water and soap to wash their hands, 78% washed cutting boards with water and bleach, and 72% cooked food to required temperatures, while 28% reported to have used a food thermometer to measure cooking temperatures. There are many regulations that help promote safe food handling among food handlers working at food establishments, but when it comes to consumers, we depend mainly on education from mass media and from short courses like the ones offered by PRAES.

What has been done

To improve the consumers' safe food handling practices, PRAES home economists offered Fight BAC short courses, which are custom made to the needs of the audience in Puerto Rico. The home economists also incorporated these lessons to their food demonstrations and other food preparation courses.

Results

After completing the Fight BAC course, 83% of the consumers reported having adopted at least one safe food handling practice. Among the practices adopted were handwashing (92%), 87% reported that they cooked food to the recommended cooking temperatures, but only 48% reported that they actually used a food thermometer, 97% cleaned and sanitized surfaces, 83% avoiding cross contamination, and 65% reduced holding time to two hours

4. Associated Knowledge Areas

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and
- 724 - Healthy Lifestyle
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and

Outcome #4

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of participants that approved the certification exam.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	3000	3307

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Puerto Rico Health Department (PRHD) adopted the F's Food Code in 2000. The Food Code requires that the person in charge of a food establishment demonstrate knowledge on safe food handling practices. PRHD requires that the all persons in charge of food establishment renew the course every three years in order to stay updated in any change in regulations. The PRHD's main objective is to reduce outbreaks due to foodborne illnesses.

What has been done

PRAES' Food Safety course consists of 13 lessons. These lessons were offered by 17 trained home economists throughout the island, with the collaboration of health inspectors that participated in our courses. The inspectors talked about the regulatory agency and what they expect from the food establishments. Due an alliance between PRAES and PR Health Department, the health inspectors are mostly recommending our course. One of the lessons of the course is Food Defense and is offered by FDA personnel.

Results

Ninety-eight per cent (98%) of the participants that completed the food safety course approved the test with 70% or more.

4. Associated Knowledge Areas

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and
- 724 - Healthy Lifestyle
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and

Outcome #5

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of participants that adopted three or more of 20 selected food handling practices recommended by the Food Code.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1700	2185

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Puerto Rico Department of Health adopted the Food Code regulation in which the person in charge (PIC) must demonstrate knowledge in different food safety handling practices and supervise the employees that work in the food establishment. Health inspectors have the task of looking after the public health and verifying that the PIC has the knowledge and are adopting these practices and applying them in their Food Establishment in order to minimize the risk of foodborne illnesses.

What has been done

PRAES' Food Safety Course consists of 13 lessons in topics like personnel hygiene and health; HACCP, buying, receiving, preparing, and serving food; physical facilities, foodborne illnesses, and food defense. This Food safety Course complies with the knowledge areas that are required by the Food Code 2009.

Results

Sixty-six per cent (66%) of the participants in the Food Safety courses adopted three or more safe food handling practices. Eighty per cent (80%) of the participants informed that they washed their hands when changing tasks or food items, 78% reported that they have separate cutting boards, 63% used food thermometer to measure temperature of PHF during exhibition and maintain proper holding temperatures, 85% wash and sanitize equipment properly, and 70% used food thermometer to measure food temperatures.

4. Associated Knowledge Areas

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and
- 724 - Healthy Lifestyle
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and

Outcome #6

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of people that adopted one or more of the recommended practices in the nutrition course.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2000	3101

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and
- 724 - Healthy Lifestyle
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other

Brief Explanation

Although we had a reduction in personnel due to retirement and in our budget, we were able to meet our goals through our joint efforts with the PR Department of Health, the PR Food Safety Education Partnership, and the intensive work of our home economists in the communities they Serve. Also, people are becoming more conscious of the importance of a good nutrition for a better health and are more willing to adopt the recommended practices.

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

(OPTIONAL SECTION)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Plant System

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
204	Plant Product Quality and Utility (Preharvest)	9%			
205	Plant Management Systems	8%			
211	Insects, Mites, and Other Arthropods Affecting Plants	7%			
212	Pathogens and Nematodes Affecting Plants	7%			
213	Weeds Affecting Plants	7%			
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	5%			
216	Integrated Pest Management Systems	8%			
401	Structures, Facilities, and General Purpose Farm Supplies	7%			
402	Engineering Systems and Equipment	5%			
403	Waste Disposal, Recycling, and Reuse	7%			
405	Drainage and Irrigation Systems and Facilities	8%			
601	Economics of Agricultural Production and Farm Management	5%			
602	Business Management, Finance, and Taxation	5%			
604	Marketing and Distribution Practices	7%			
610	Domestic Policy Analysis	5%			
	Total	100%			

Add knowledge area

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	35.6	0.0	0.0	0.0

Actual	30.3	0.0	0.0	0.0
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2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1275968	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
637984	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

- Conducted trainings on good agricultural practices in production, postharvest, IPM and value added, drainage, irrigation, waste management systems and improved structures training, pesticides application, economics
 - Together with the Puerto Rico Agricultural Experiment Station, conducted trainings in IPM, citrus greening management, Bacterial citrus Black Spot, among others
 - Visits and guidance to farmers
 - Conducted farmers' meetings
 - Collaborated with local government agencies (Departments of Agriculture and Environmental and Natural Resources) and USDA (NRCS, FSA and others)
 - Prepared cultivation practices, IPM, irrigation, drainage, waste systems and packinghouse plans.
 - Prepared product quality and structure improvement plans
 - Distributed publications
 - Prepared publications on crop production, postharvest, IPM, irrigation, waste systems, improvement of structures, economics practices, and application of pesticides
 - Together with the Puerto Rico Department of Agriculture and Agricultural Experiment Station conducted a project to increase the production and quality of crops (citrus, coffee, plantain, vegetables, starchy crops, limes and pineapple)
 - Conducted research projects with the Agricultural Experiment Station, Department of Agriculture, and private agricultural entrepreneurs in pineapple and citrus fertilizer programs, citrus greening foliar nutritional and citrus rootstock programs in AE Station facilities and on-site at the farms

2. Brief description of the target audience

The majority of the Plant Systems planned program's target audience consists of farmers, government and Department of Agriculture professionals, county agents, USDA professionals (NRCS, APHIS and FSA), packinghouse companies, product distributors, researchers of the Agricultural Experiment Station and professionals from the private sector.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	23000	25000	1000	500
Actual	32879	21647	4699	372

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	2	0	
Actual	2	0	2

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of persons trained on plant management, products quality, value-added, pesticide use, IPM, pesticide application, and commercial pesticide application.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	12500	14150

Output #2

Output Measure

- Number of workshops and meetings offered.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	100	883

Output #3

Output Measure

- Number of collaborations established to improve engineering and biological systems infrastructure.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	100	97

Output #4

Output Measure

- Number of waste management systems designed.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	50	79

Output #5

Output Measure

- Number of plans and specifications for model structures completed and distributed.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	50	78

Output #6

Output Measure

- Number of demonstration facilities established.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	2	1

Output #7

Output Measure

- Number of trainings, courses and seminars offered.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	20	113

Output #8

Output Measure

- Number of farms and agricultural entrepreneurs trained.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	300	347

Output #9

Output Measure

- Number of clients that participated in workshops on structures, waste management systems, and drainage and irrigation systems.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	800	1285

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of farmers that adopted one or more recommended practices of the plant management systems in crop commodities.
2	Number of farmers that increased production in crop commodities.
3	Number of farmers that increased the quality in crop commodities.
4	Number of farmers that adopted new value-added practices in crop commodities.
5	Number of farmers that increased their income after having adopted one or more practices of plant management systems and/or product quality.
6	Number of persons that acquired knowledge after completing a training program in integrated pest management.
7	Number of persons that adopted one or more techniques after completing an integrated pest management program.
8	Number of persons that reduced the use of pesticides after completing an integrated pest management program.
9	Number of persons that established an IPM program after completing a training program.
10	Number of farmers that acquired knowledge after completing a training program in pesticide application.
11	Number of farmers that acquired knowledge after completing a training program in integrated pest management.
12	Number of clients that increased their knowledge about improvements to increase the efficiency of structures (new and existing) and compliance with regulations.
13	Number of clients that increased their knowledge about appropriate systems for waste management in their projects.
14	Number of clients that increased their knowledge about drainage or irrigation facilities.
15	Number of clients that adopted one or more of the recommended practices to increase the efficiency of their structures and comply with all permits.
16	Number of clients that adopted one or more practices to improve their drainage or irrigation facilities.
17	Number of farmers that improved their structures (new and existing) and/or comply with permits.

18	Number of waste management systems improved (new or existing).
19	Number of drainage or irrigation facilities improved.
20	Number of farmers that increased their production as a result of improving their structures.
21	Number of farmers that increased their production as a result of improving their waste management systems.
22	Number of farmers that increased their production as a result of improving their drainage or irrigation facilities.
23	Number of farmers and agricultural entrepreneurs that adopted one or more economic practices.
24	Number of farmers and agricultural entrepreneurs that utilize economic tools to take effective economic decisions to improve their business.

Add Cross-cutting Outcome/Impact Statement or Unintended or Previously Unknown Outcome Measure

Outcome #1

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of farmers that adopted one or more recommended practices of the plant management systems in crop commodities.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2800	5484

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers in Puerto Rico face problems with product quality and the poor use of adequate crop cultivation practices. The rising pesticide costs and growing public concerns about pesticide

residues in food and the contamination of surface and groundwater supplies, have forced farmers to try to reduce their reliance on chemicals to control pests and diseases. The presence of diseases and pests in crops, economic problems, the need for better waste management systems for plantain, bananas, pineapple, citrus, tropical fruits, starchy crops, and coffee production, and losses due to the Broca insect required the intervention of PRAES agricultural agents and specialists to orient farmers on better management practices to control diseases and improve production.

What has been done

Farmers were oriented in the better management practices to solve the problems in their farms and increase the marketing of their products. PRAES agents offered trainings, visits and orientations to farmers, including the distribution of educational material.

Results

As a result of the training programs by PRAES agents and farm visits, 5,484 farmers adopted one or more of the recommended practices of the plant management systems' crop commodities, better cultivation, economics, better management practices, insect and disease control, and plant nutrition programs to produce more and better products that can be marketed at better prices.

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #2

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that increased production in crop commodities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	500	840

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Problems with maintaining product quality and the poor use of adequate crop cultivation practices together with diseases in crops affected crop production. There was a need for better harvest and management practices, improvement of structures and irrigations systems to help farmers improve and increase production.

What has been done

PRAES agents and specialists, together with the Agriculture Experiment Station researchers, oriented farmers on correct production and harvest practices. The farmers were trained and oriented on IPM program, new liquid and slow release fertilizer programs, insects and diseases control, and harvest management. They also received farm orientation visits and educational material on the subject matter.

Results

With the help of Extension Agents, 840 farmers increased their production in different crop commodities. In the case of citrus farmers they changed their hand harvesting practices in madarin oranges to cutting with scissors, reducing harvest loss in 6%. Farmers that adopted a sigatoka control program and the use of soluble fertilizer increased the marketing of plantain in about 5%. Coffee farmers with broca insect control traps and programs increased production in 9% compared with last year.

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies

- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #3

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that increased the quality in crop commodities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1000	1999

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As in crop production, crop quality is affected by the presence of insects and diseases, as well as by poor management practices. In Puerto Rico the quality of plantain and bananas is affected by sigatoka disease and coffee by the Broca insect. Poor postharvest practices can cause serious damage to crops and affect their quality. An example of this is the Serrallos packinghouse, mango exporter to the USA and Europe, where much of the fruits were damaged during transport by loss of pulp (hollows in the pulp of the mango pulp). The loss was 7 to 10% of the boxes shipped.

What has been done

PRAES agents carried out an aggressive promotion plan on control of crop disease and better management practices for better external quality of the product. The plan included training meetings and educational material on the subject matter. In the case of the Serrallos packinghouse, the PRAES specialist in fruits, the local county agent, and Agricultural Experimental Station researcher worked together to correct the problem.

Results

The promotion plan on control of insects and crop diseases and better management practices resulted in improved quality of their crop commodities for 1999 farmers. The Serrallos packinghouse eliminated its problem 100% by leaving the harvested mango one day so that it could lose the heat of the field and then passed through the packing line and hot water treatment. This resulted in an increase in income (10%), approximately \$15,000 to 25,000 dollars were recovered.

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #4

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that adopted new value-added practices in crop commodities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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2010

200

226

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

An increase in production and quality of the crops required that the farmers adopt more value-added to their products in order to be able to compete in the market and have alternative ways of selling their products.

What has been done

Farmers were oriented on the best practices to increase the value of the production like packing of the products in the farm, attractive labeling and boxes to promote the commodities, and processing part of the production in ready-to-cook-and-prepare products.

Results

Two hundred and twenty-six (226) farmers adopted the recommended practices. The Citrus Mountain Producers' Association increased their sales and income 30% (\$840,000) by selling their peeled oranges to the Public School Food Program. The peeled orange were packed in boxes and refrigerated reducing injury to the fruit during harvest.

A hot peppers grower developed a hot sauce, with the orientation of Puerto Rico Agricultural Extension Service agents and Agricultural Experiment Station researchers. He increased his income in \$40,000.

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #5

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of farmers that increased their income after having adopted one or more practices of plant management systems and/or product quality.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	450	1395

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management

- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #6

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that acquired knowledge after completing a training program in integrated pest management.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1500	1984

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Puerto Rico's reduced economy has alerted farmers to the benefits of reducing their reliance on chemicals to control pests and diseases and are now more willing to adopt the IPM approach to reduce the native impacts associated with pest control.

What has been done

The PRAES county agent and specialist, together with Agricultural Experiment Station personnel, offered trainings, conferences and workshops on IPM programs to farmers who also participated in field days in IPM. Farmers were oriented on the importance of having a good IPM program to control many new diseases and pests that increase the cost of pest control.

Results

One thousand nine hundred and eighty-four (1984) farmers acquired knowledge on IPM after completing an IPM program, 831 farmers adopted one or more of the IPM techniques and 639 farmers reduced pesticide use. Five hundred and ninety-four (594) farmers established and IPM after completing a training program and becoming more aware and conscientious of the harmful effects of pesticides on environmental health.

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #7

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that adopted one or more techniques after completing an integrated pest management program.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1000	831

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #8

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that reduced the use of pesticides after completing an integrated pest management program.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	639

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #9

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that established an IPM program after completing a training program.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	594

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #10

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that acquired knowledge after completing a training program in pesticide application.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1900	1513

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #11

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that acquired knowledge after completing a training program in integrated pest management.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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2010

1900

1984

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

This indicator is repeated, so it will be eliminated.

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #12

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of clients that increased their knowledge about improvements to increase the efficiency of structures (new and existing) and compliance with regulations.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	400

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #13

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of clients that increased their knowledge about appropriate systems for waste management in their projects.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	506

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #14

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of clients that increased their knowledge about drainage or irrigation facilities.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	345

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management

- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #15

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of clients that adopted one or more of the recommended practices to increase the efficiency of their structures and comply with all permits.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	80	114

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment

- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #16

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of clients that adopted one or more practices to improve their drainage or irrigation facilities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	67

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants

- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #17

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that improved their structures (new and existing) and/or comply with permits.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	122

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants

- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #18

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of waste management systems improved (new or existing).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	60	79

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #19

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of drainage or irrigation facilities improved.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	16

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #20

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that increased their production as a result of improving their structures.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	30	44

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #21

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that increased their production as a result of improving their waste management systems.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	45	44

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #22

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that increased their production as a result of improving their drainage or irrigation facilities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	0	51

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #23

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers and agricultural entrepreneurs that adopted one or more economic practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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2010

400

572

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #24

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers and agricultural entrepreneurs that utilize economic tools to take effective economic decisions to improve their business.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	400	469

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other

Brief Explanation

The economic situation of the USA and Puerto Rican governments was a very important factor for the outcomes of crop production. Many government State agricultural programs were stopped during 2010. This situation affected many farmers and coffee buyers. Crop production was also affected by pests in coffee fruits, diseases in plantain and banana plantations and the citrus greening insect vector greening diseases. Puerto Rico's record breaking rains during 2010 (the heaviest in recorded history) also had a negative impact on production.

In areas where there was an increase in outcomes PRAES worked jointly with Puerto Rico Agriculture Experiment Station researchers to convey the importance and benefits of applying better management practices and IPM.

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

(OPTIONAL SECTION)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program

intervention

- Other (Surveys)

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Families and Children/Consumer Education and Individual and Family Resources

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
607	Consumer Economics	10%			
801	Individual and Family Resource Management	40%			
802	Human Development and Family Well-Being	50%			
	Total	100%			

Add knowledge area

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	20.1	0.0	0.0	0.0
Actual	19.4	0.0	0.0	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
814465	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
407233	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

- Participate in radio/ TV Programs
- Write Proposals
- Curriculum and educational materials development
- Training-the-trainers
- Workshops
- Establishment of collaborations
- Consulting
- Exhibition (Billboards in malls and public places with informative brochures and other educational material)

2. Brief description of the target audience

Families, individuals, children, youth, elderly people, new couples, Extension professionals and employees of the public and private sectors.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	12000	3000	2500	0
Actual	11830	3387	1408	0

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	2	0	
Actual	2	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of persons trained in parenting and related areas.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	1500	1656

Output #2

Output Measure

- Number of persons trained in aging aspects.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	1000	846

Output #3

Output Measure

- Number of consumers that completed the Consumer Education course.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	750	868

Output #4

Output Measure

- Total number of consumers that completed individual and family resource management course.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	750	1059

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of persons that reported improved parenting skills.
2	Number of persons that gained knowledge in aging aspects.
3	Number of consumers that adopted debt reduction practices.(Family Resource Management)
4	Number of consumers that adopted practices on how to save.(Family Resource Management)
5	Number of consumers that improved their financial well-being.
6	Number of consumers that adopted savings practices through goods and services selection process. (Consumer Education course)

Add Cross-cutting Outcome/Impact Statement or Unintended or Previously Unknown Outcome Measure

Outcome #1

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of persons that reported improved parenting skills.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1000	587

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A course Successful Parenting was developed in the high risk Sabana Community in the Municipality of Guaynabo due to the high incidence of abuse and negligence in the children. Twenty families referred by the Department of the Family with, which we maintain collaborative efforts, participated in the course. The objective was to develop strategies of healthy child rearing models.

What has been done

We made eight educational interventions. The subjects covered were: class of parents, communication, self-esteem, positive discipline, family strengths, stress management, management of emotions, and protective factors to prevent domestic violence.

Results

As a result of the interventions, 15 parents improved their family relations with their children and 80% reported being able to control their emotions and deal with family conflict. The Department of the Family continued referring high risk families to the PRAES to help them obtain the necessary tools and skills for healthy child rearing.

4. Associated Knowledge Areas

- 607 - Consumer Economics
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being

Outcome #2

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of persons that gained knowledge in aging aspects.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	800	581

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 607 - Consumer Economics
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being

Outcome #3

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of consumers that adopted debt reduction practices.(Family Resource Management)

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	485

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 607 - Consumer Economics
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being

Outcome #4

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of consumers that adopted practices on how to save.(Family Resource Management)

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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2010

500

603

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 607 - Consumer Economics
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being

Outcome #5

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of consumers that improved their financial well-being.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	95

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 607 - Consumer Economics
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being

Outcome #6

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of consumers that adopted savings practices through goods and services selection process. (Consumer Education course)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	600	782

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 607 - Consumer Economics
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other

Brief Explanation

Problems in our economy brought a reduction in personnel, as the positions of home economists that retired were not filled again. More emphasis was given to better use and management of the family budget, better purchasing practices and savings to avoid the adverse effects of the low economy, lay offs and increasing prices in all areas.

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

(OPTIONAL SECTION)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Management of Rangeland and Forestry Resources/Soil, Water, and Air

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	5%			
102	Soil, Plant, Water, Nutrient Relationships	15%			
104	Protect Soil from Harmful Effects of Natural Elements	5%			
111	Conservation and Efficient Use of Water	5%			
112	Watershed Protection and Management	5%			
121	Management of Range Resources	20%			
122	Management and Control of Forest and Range Fires	5%			
123	Management and Sustainability of Forest Resources	10%			
124	Urban Forestry	20%			
133	Pollution Prevention and Mitigation	5%			
141	Air Resource Protection and Management	5%			
	Total	100%			

Add knowledge area

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	9.0	0.0	0.0	0.0
Actual	11.0	0.0	0.0	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
462765	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
231382	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

- Collaborate with government agencies (DNRA, USDA-NRCS and others).
- Collaborate with our partners in the University of Puerto Rico and other educational institutions.
- Conduct workshops, short courses and trainings on practices, laws, and regulations related to range management, urban forestry, soil, water, and air.
- On-site farm visits and field trips to demonstration projects.
- Offer advice when clientele visit the office.
- Participate in radio programs.

2. Brief description of the target audience

County agents, home economists, government personnel, community residents, youth 13-18 years old, farmers, homeowners.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	4000	3000	0	0
Actual	7132	1112	0	0

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	2	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of farmers trained in range management.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	250	291

Output #2

Output Measure

- Number of people that participated in workshops, conferences or meetings on urban forestry.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	300	195

Output #3

Output Measure

- Number of persons trained on forest and rangeland fire prevention.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	100	72

Output #4

Output Measure

- Number of persons trained on pollution prevention and mitigation of natural resources.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	100	223

Output #5

Output Measure

- Number of agency collaborations established.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	75	99

Output #6

Output Measure

- Number of people trained on natural resources and forest conservation.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	225	1748

Output #7

Output Measure

- Number of trainings offered on soil, water, and air.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	20	23

Output #8

Output Measure

- Number of farmers trained on agricultural practices for air and water quality.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	250	30

Output #9

Output Measure

- Number of people trained on environmental regulations for soil, air, and water quality.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	500	2601

Output #10

Output Measure

- Number of farmers trained on soil fertility.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	350	620

Output #11

Output Measure

- Number of farmers trained on soil conservation practices

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	250	183

Output #12

Output Measure

- Number of people trained on watershed protection.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	200	89

Output #13

Output Measure

- Number of people trained on conservation and effective use of water resources.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	350	47

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of farmers that improved their pastures.
2	Number of persons that adopted one or more practices on natural resources and forest conservation.
3	Number of reforestation projects established.
4	Numbers of persons that adopted one or more practices on fire prevention in forests and rangelands.
5	Number of farmers that adopted the recommended range management practices.
6	Number of acres in improved pastures.
7	Number of persons that adopted practices for pollution prevention and mitigation of natural resources.
8	Number of farmers that adopted the recommended practices for air and water quality.
9	Number of farmers that comply with the soil, air, and water regulations.
10	Number of farmers that adopted the fertilization practices.
11	Number of farmers that adopted one or more soil conservation practices.
12	Number of farmers that established practices for the protection of watersheds.
13	Number of persons that adopted practices to improve water resources.

Add Cross-cutting Outcome/Impact Statement or Unintended or Previously Unknown Outcome Measure

Outcome #1

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of farmers that improved their pastures.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	55

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Range farmers and dairy farmers concerned with the high cost of concentrated feeds explored other alternative to reduce their feed expenses. The Puerto Rico Agricultural Extension Services (PRAES) and the Natural Resources Conservation Service (NRCS-USDA) joined efforts to help farmers to improve their pastures adopting best management practices.

What has been done

PRAES developed several trainings to inform, promote and encourage the adoption of management practices to improve pastures and reduce costs. Rotation practices, renovation of forage species and control of weeds were some of the practices promoted among farmers.

Results

A total of 18.9% of the farmers trained improved their pastures. Better selection of forage species helped to improve livestock performance due to the increased forage protein quality and yields.

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management

- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #2

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that adopted one or more practices on natural resources and forest conservation.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	150	132

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

PRAES intends to train farmers and community members on appropriate practices on natural resources and forest conservation to protect and conserve our natural resources. Puerto Rico has a high rate of erosion and we are losing available land suitable for agriculture and forest lands affecting our watersheds, rivers, and coral reefs.

What has been done

PRAES, NRCS-USDA and several government state agencies (Departments of Natural Resources and Environment, Aqueduct and Sewer Agency, others), joined efforts to train community members, farmers and students on the appropriate management to conserve our natural resources (soil, water, and air) and forests as a way to control soil erosion and deforestation and preserve our lands

Results

A total of 7.5% of the people trained were impacted and adopted one or more practices on natural resources and forest conservation. Community groups, students, and farmers around the island accepted the challenge and adopted practices on their farms, communities, and schools.

Watershed protection, recycling of paper and waste material, and preparing compost were some of the practices adopted.

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #3

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of reforestation projects established.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	20	41

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Global warming is a threat to our environment. IN Puerto Rico watersheds and forests are being deforested sometimes for agricultural purposes, others for city or home development, increasing the sedimentation of rivers and streams and the potential for floods. Communities and citizens affected by changes in weather and climate patterns developed reforestation projects for pollution and soil erosion control and sedimentation of rivers and streams.

What has been done

PRAES joined efforts with government agencies (Department of Natural Resources and Environment, Permits and Regulations Administration, "Administración de Reglamentos y Permisos- ARPE", and Natural Resources Conservation Service), non-government agencies, community and schools to promote and develop reforestation projects to enhance the natural environment around communities. These projects help and contribute to minimize the impact of soil and water erosion in our lands. Tree nurseries were established by the DNRA to produce tree seedlings of native trees for reforestation projects that help to create new environmental leaders in our communities.

Results

Forty-one (41) reforestation projects were established as a result of the involvement of community groups and citizens, and schools throughout the island. These projects will help to reduce soil erosion and sedimentation of our watershed and rivers. They will also help to conserve endangered native trees and habitats for wildlife species and enhance the community.

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #4

1. Outcome Measures

- Not Reporting on this Outcome Measure

Numbers of persons that adopted one or more practices on fire prevention in forests and rangelands.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	30	31

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #5

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that adopted the recommended range management practices.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	170	55

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #6

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of acres in improved pastures.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
 Change in Action Outcome Measure
 Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	500	92

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #7

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that adopted practices for pollution prevention and mitigation of natural resources.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	500	112

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #8

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that adopted the recommended practices for air and water quality.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
 Change in Action Outcome Measure
 Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	125	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #9

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of farmers that comply with the soil, air, and water regulations.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	250	144

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #10

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of farmers that adopted the fertilization practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	1512

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #11

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of farmers that adopted one or more soil conservation practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	200	49

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #12

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that established practices for the protection of watersheds.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
 Change in Action Outcome Measure
 Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	80	154

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

Outcome #13

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of persons that adopted practices to improve water resources.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	350	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Avail. econo. incent., change ag)

Brief Explanation

Although there was an increase in some areas, in others the goals were not met due to various factors. The reduction in incentives to farmers due to a reduction in resources in government agencies and an increase in farm costs due to increased prices in feed and transportation made farmers more cautious in their use of their budget. Also the unprecedent amount of rain during 2010, which was the highest in recorded history, affected many farm enterprises.

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

(OPTIONAL SECTION)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other (Surveys)

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Animal Systems

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	5%			
302	Nutrient Utilization in Animals	5%			
303	Genetic Improvement of Animals	2%			
305	Animal Physiological Processes	2%			
306	Environmental Stress in Animals	5%			
307	Animal Management Systems	10%			
308	Improved Animal Products (Before Harvest)	5%			
311	Animal Diseases	10%			
312	External Parasites and Pests of Animals	5%			
313	Internal Parasites in Animals	5%			
315	Animal Welfare/Well-Being and Protection	5%			
401	Structures, Facilities, and General Purpose Farm Supplies	3%			
402	Engineering Systems and Equipment	3%			
403	Waste Disposal, Recycling, and Reuse	12%			
405	Drainage and Irrigation Systems and Facilities	4%			
601	Economics of Agricultural Production and Farm Management	7%			
602	Business Management, Finance, and Taxation	5%			
604	Marketing and Distribution Practices	5%			
610	Domestic Policy Analysis	2%			
	Total	100%			

Add knowledge area

V(C). Planned Program (Inputs)

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

Extension	Research
------------------	-----------------

Year: 2010	1862	1890	1862	1890
	25.9	0.0	0.0	0.0
Plan				
Actual	22.6	0.0	0.0	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
952453	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
476227	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

- Conducted seminars, meetings and Workshops.
- Established collaboration with other local and federal agencies and other University partners on research and extension programs.
- Worked in collaboration with the communications media.
- Write/submit extension and research proposals.

2. Brief description of the target audience

Farmers, PRAES professionals, government personnel, and professionals from the private sector.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	10000	9000	4000	900
Actual	14939	3965	4699	372

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	2	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of persons trained in control and prevention of diseases in animals, bio-security programs, control and prevention of internal and external parasites, animal welfare and protection, control of environmental stress on animals, animal productin, and animal products.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	1700	3510

Output #2

Output Measure

- Number of collaborations established.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	220	126

Output #3

Output Measure

- Number of workshops and meetings offered.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	100	152

Output #4

Output Measure

- Number of clients that participated in the workshop on structures, waste management systems and drainage or irrigation systems.
- Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	900	214

Output #5

Output Measure

- Number of waste management systems designed.
- Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	50	78

Output #6

Output Measure

- Number of plans and specifications for model structures completed and distributed.
- Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	50	95

Output #7

Output Measure

- Number of demonstration facilities established.
- Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	2	1

Output #8

Output Measure

- Number of trainings, courses and seminars offered.
- Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	25	47

Output #9

Output Measure

- Number of farmers and agricultural entrepreneurs trained.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	375	758

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of persons that adopted disease control and prevention practices.
2	Number of persons that reduced the number of diseased animals on their farm.
3	Number of persons that adopted a bio-security program.
4	Number of persons that adopted practices in animal welfare and protection.
5	Number of persons that adopted practices for the control of parasites on their farm.
6	Number of peresons that improved efficiency of animal production.
7	Number of persons that adopted one or more practices to control heat stress.
8	Number of persons that improved the quality of their product
9	Number of perosns that improved the animal production practices.
10	Number of persons that improved the nutrient utilization practices in animals.
11	Number of persons that increased animal production after adopting the recommended practices.
12	Number of persons that increased their knowledge about appropriate systems for waste management in their projects.
13	Number of persons that adopted one or more of the recommended practices to increase the efficiency of their structures and comply with all permits.
14	Number of clients that adopted one or more practices to improve their drainage or irrigation facilities.
15	Number of farmeres that improved their structures (new or existing) and comply with permits.
16	Number of waste management systems improved (new or existing).
17	Number of drainage or irrigation facilities improved.

18	Number of farmers that increased their production as a result of improving their structures.
19	Number of farmers that increased their production as a result of improving their waste management.
20	Number of farmers that increased their production as a result of improving their drainage or irrigation facilities.
21	Number of farmers and agricultural entrepreneurs that adopted one or more economic practices.
22	Number of farmers and agricultural entrepreneurs that use economic tools to make effective economic decisions to improve their business.

Add Cross-cutting Outcome/Impact Statement or Unintended or Previously Unknown Outcome Measure

Outcome #1

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of persons that adopted disease control and prevention practices.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	325	589

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #2

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that reduced the number of diseased animals on their farm.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	225	350

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #3

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of persons that adopted a bio-security program.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	60	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #4

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of persons that adopted practices in animal welfare and protection.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	125	273

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies

- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #5

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that adopted practices for the control of parasites on their farm.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	125	392

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals

- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #6

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of peresons that improved efficiency of animal production.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	170	123

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #7

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that adopted one or more practices to control heat stress.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	40	332

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #8

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that improved the quality of their product

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	40	534

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #9

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of perosns that improved the animal production practices.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	70	293

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies

- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #10

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that improved the nutrient utilization practices in animals.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	348

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals

- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #11

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that increased animal production after adopting the recommended practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	140	199

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

High costs of feed and production, heat stress, diseases, parasites and lack of a good recordkeeping system are some of the contributing factors to loss of production and reduced income in animal farms. Farmers need to keep and on-going use of recommended better management and production practices. Common practices of keeping operational records provide tools for better decision making at the farm level, such as information of when to cull the

non-productive animals and the animals' individual health condition. Keeping the most productive animals should result in an increase in farm income and a reduction of the operational cost.

What has been done

PRAES personnel offered trainings on better management practices for disease control and prevention, bio-security, animal welfare and protection, prevention of internal and external parasites, control of environmental stress, animal production, value added animal products, and recordkeeping. They also visited farms to make on-site recommendations and follow-up on adoption of recommended practices, they also made recommendations of the use of superior genetic animals with greater resistant traits to diseases to increase production and profits.

Results

In view of their need to improve production and reduce expenses in order to maintain their farms sustainable and productive, farmers adopted the recommended practices 199, 37% of the farmers increased their production.

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #12

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that increased their knowledge about appropriate systems for waste management in their projects.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	506

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Good production practices should be in accordance with saving the environment. Keeping animals in confinement, if not well managed can cause not only a reduction in production, but serious damage to the environment when there is a lack of adequate management systems. Thus the need for environmental regulations. To meet these regulations all farmers have to construct and maintain systems to manage the animals' metabolic wastes properly.

What has been done

The Extension agricultural engineering section has been developing friendly waste systems to protect the environment. Systems like animal manure composting, contour dishes and oxidation ponds are the ones implemented by farmers. With these systems the streams and watersheds are protected, saving the animals living in the waters and the ones surrounding it. Farmers were oriented the construction of these systems and regulations on waste management.

Results

As result of Extension work 506 farmers improved their waste management facilities.

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection

- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #13

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of persons that adopted one or more of the recommended practices to increase the efficiency of their structures and comply with all permits.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	125	122

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes

- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #14

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of clients that adopted one or more practices to improve their drainage or irrigation facilities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	5	67

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #15

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmeres that improved their structures (new or existing) and comply with permits.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	122

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #16

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of waste management systems improved (new or existing).

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	150	122

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #17

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of drainage or irrigation facilities improved.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
 Change in Action Outcome Measure
 Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	5	16

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies

- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #18

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that increased their production as a result of improving their structures.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals

- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #19

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that increased their production as a result of improving their waste management.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	70	44

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #20

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers that increased their production as a result of improving their drainage or irrigation facilities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	3	51

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #21

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of farmers and agricultural entrepreneurs that adopted one or more economic practices.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	85	133

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

Outcome #22

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of farmers and agricultural entrepreneurs that use economic tools to make effective economic decisions to improve their business.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	40	163

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 312 - External Parasites and Pests of Animals
- 313 - Internal Parasites in Animals
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies

- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Focus prog. other agencies)

Brief Explanation

Although there was a slight increase in some areas, government changes and lack of long-term planning result in an unstable environment in government agencies. This caused changes in the agencies' priorities and their performance in general, resulting in changes and disruption in the projects and affecting program outcomes. Also, the general feeling that the economy is weak made people put off investing in the improvement of the infrastructure in their farms, people were less aggressive in their use of money and making extensive changes on their farms and changes in public policies and regulations caused farmers to change their priorities and to postpone projects. The availability of economic incentives is decisive in making final decisions that require capital investments. Many projects depend on economic incentives to be cost effective.

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

(OPTIONAL SECTION)

1. Evaluation Studies Planned

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

- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other (Focal groups)

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Community Resources Development by Means of Fostering Sustainable Communities

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
608	Community Resource Planning and Development	40%			
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	30%			
805	Community Institutions, Health, and Social Services	30%			
	Total	100%			

Add knowledge area

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	31.0	0.0	0.0	0.0
Actual	31.0	0.0	0.0	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
1304154	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
652077	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

- Community assemblies and meetings to establish rapport and delineate needs and aspirations.
- Conference/training in areas of social investment, marketing, market study and analysis, self-employment opportunities identification, and community-based business.
 - Participative Action Research strategies such as "reading the streets", participant observation, ethnographies, life histories, focal groups, informal interviews, and reflexive diaries.
 - Use of "tool box" material to empower community participants to take advantage of economic initiatives.
- Establishment of strategic alliances with government agencies, non-governmental organizations and community institutions to collaborate in the promotion of community-based economic initiatives.
 - Workshops and meetings
 - Establish community coalitions with volunteer organizations, community services organizations, institutions, and other agencies
 - Seminars with community services institutions that offer assistance in case of disaster or emergency, including volunteer organizations, non-profit groups and government agencies.
 - Educational community campaigns

2. Brief description of the target audience

Community participants (i.e., individuals and families), community leaders, extension professionals, and other professionals.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	750	2500	0	0
Actual	1093	418	0	0

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	0	

Actual	2	0	0
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V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of persons trained in community-based business.

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	100	187

Output #2

Output Measure

- Number of leaders trained on community organization and empowerment (at least four workshops).

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	150	212

Output #3

Output Measure

- Number of leaders trained on emergency and disaster situations (at least four workshops).

Not reporting on this Output for this Annual Report

Year	Target	Actual
2010	150	502

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of persons applying the recommended practices in the process of developing a community-based business.
2	Number of community-based businesses established.
3	Number of community projects established to benefit the community.
4	Number of leaders participating actively in the design and implementation of community projects.
5	Number of communities that developed an emergency and safety plan.

Add Cross-cutting Outcome/Impact Statement or Unintended or Previously Unknown Outcome Measure

Outcome #1

1. Outcome Measures

Not Reporting on this Outcome Measure

Number of persons applying the recommended practices in the process of developing a community-based business.

2. Associated Institution Types

1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	20	141

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The collapse of the Puerto Rican economy with an annual economic growth of -6% (concurrently with the implantation of Law 7 by the Government of Puerto Rico, which led 30,000 plus layoffs of government employees) has led to over 100,000 additional people to the unemployment rolls in the past two years. Portending this calamity, Puerto Rico's CRD has been working hard in developing community entrepreneurs who will create and expand local markets. Once again the Orocovis municipality set the pace with the expansion of the entrepreneurial activity started last year. The coastal town of Cataño, where the youth are challenged with a lack of work opportunities, a 4H Club has been working hard in getting both artisanship and entrepreneurial training.

What has been done

Two new farmers' festivals were organized in Orocovis with the assistance of our local agricultural agent and home economist, providing resources and entrepreneurial experience for the development of local farmers' markets. The ecologist 4-H Group "Verdes de Corazón" (Green from the Heart) at Cataño created a ceramic collage artisanship economic venture that has skyrocketed right from the beginning. First they developed a business plan and then they incorporated their business.

Results

During the past two years we had over 350 new community leaders and individual members of communities exploring entrepreneurial initiatives and putting in place entrepreneurial skills, such as: human resources analyses, viability studies, evaluation of the competition, marketing and permits, and incorporation compliance requirements. Economic ventures and business proposals are flourishing throughout all the Agricultural Extension Service regions thanks to the CRD's

"Community's Entrepreneurial Toolbox".

4. Associated Knowledge Areas

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and
- 805 - Community Institutions, Health, and Social Services

Outcome #2

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of community-based businesses established.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Puerto Rico Agricultural Extension Service (PRAES) has historically offered training opportunities in agriculture, and family sciences related activities that can empower stakeholders to create self-employment opportunities. With the "Community Entrepreneurial Toolbox" community and family based micro-businesses have been created and new economic oriented initiatives are emerging. Workers displaced by Law 7 are benefiting from PRAES' marketable skills and entrepreneurship training.

What has been done

Stakeholders are being widely trained on the "Community Entrepreneurial Toolbox" workshop series together with other marketable skills such as artisanship, craftsmanship, tailoring, children and elderly services, agricultural, and other related skills. This has led to an increase in the creation of community and family based micro-businesses and economic oriented initiatives.

Results

Fifteen (15) community based businesses were established. The ceramic collage artisanship venture of the Cataño 4-H group "Verdes de Corazón" is the most outstanding example of

business creation and consolidation. Through the home economist's mentoring they participated in country and artisanship fairs, generating income that allowed them to establish a business. The Bacardi Corporation recently placed a \$10,000 order with "Verdes de Corazon" for a mural that will welcome international visitors to the Corporation's Head Quarters in San Juan. Another dozen enterprises ranging from baking and tailoring initiatives to farmers' markets and community gardens have been established, creating steady income to 67 community members.

4. Associated Knowledge Areas

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and
- 805 - Community Institutions, Health, and Social Services

Outcome #3

1. Outcome Measures

- Not Reporting on this Outcome Measure
Number of community projects established to benefit the community.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	40	47

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In addition to the present economic crisis, Puerto Rico is confronting great pressure due to the profound ecological footprint and high levels of food imports. The CRD programmatic area has stressed the need to help organize communities to become more sustainable by promoting the development of community gardens, recycling, water conservation, and habitat restoration projects.

What has been done

A project was established at La Plata lake to clean and restore the basin and help preserve the critical habitat under the care of the U.S. Fish and Wildlife Service. Community garden projects were established, among other local food production and conservation projects, in the towns of Hormigueros, Orocovis, Isabela, Las Piedras, San Germán, and Yabucoa.

Results

The above mentioned communities established demonstrative local food production projects that will serve as train-the-trainers facilities and provide mentorship to new communities. Forty-seven (47) projects were established to benefit these communities.

4. Associated Knowledge Areas

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and
- 805 - Community Institutions, Health, and Social Services

Outcome #4

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of leaders participating actively in the design and implementation of community projects.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	200	678

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The current economic crisis and government displacement of workers have led to an interesting addition to the characteristics of community leaders and volunteers. An influx of displaced and early retired workers to the AES offices, either seeking to spend their spare time in productive activities or to increase their job marketability through added productive and human capital skills. The crisis has provided Puerto Rico AES with human capital and talent that are making the difference in community development and organization.

What has been done

In the towns of Maunabo, San Germán, Las Piedras, San Lorenzo, Yabucoa, Caguas, Ponce, Toa Alta and Yauco, either retired or displaced workers have joined hands with AES field personnel to develop new farmers' development projects, as well as community organization and development projects that vary from conservation initiatives to health promotion and economic development ventures.

Results

The above mentioned communities have revitalized their leadership and volunteer crew with experienced, disciplined and productive human capital, with 678 leaders participating actively in the design and implementation of community projects.

4. Associated Knowledge Areas

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and
- 805 - Community Institutions, Health, and Social Services

Outcome #5

1. Outcome Measures

- Not Reporting on this Outcome Measure

Number of communities that developed an emergency and safety plan.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

- Change in Knowledge Outcome Measure
- Change in Action Outcome Measure
- Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	30	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Being increasingly susceptible to both man spawned (like the recent explosion of the obsolete Gulf Oil Refinery tanks in Cataño) and natural disasters (Puerto Rico is in the Caribbean Ring of Fire, thus prone to telluric movements and in the Caribbean hurricane alley), Puerto Rico urgently needs to prepare its population to deal with and manage emergencies.

What has been done

Intensive training of field personnel began with the development of the Emergency Management workshop series by the CRD specialist Angélica Martínez and the certification of over a dozen communities leaders and volunteers as emergency plan managers.

Results

Fifteen new communities now count with emergency and safety plans and 131 community members who will serve as mentors to other communities in their municipalities.

4. Associated Knowledge Areas

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and
- 805 - Community Institutions, Health, and Social Services

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other

Brief Explanation

The establishment of government layoff law known as law 7, and the current economic crisis have forced over 100,000 plus workers to the unemployment rolls. This has provided the AES in Puerto Rico with both new challenges and new human resources.

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

(OPTIONAL SECTION)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Other

Evaluation Results

Key Items of Evaluation