

2008 University of Puerto Rico Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

The following accomplishment report covers the period from October 1, 2007 to September 30, 2008. During this fiscal year, the Puerto Rico Agricultural Extension Service (PRAES) used 184.5 FTE's. PRAES signed multiple agreements and/or made collaborative efforts throughout the island during this fiscal year. 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.

PLANNED PROGRAM

Animal Production and Animal Protection

The livestock sector in Puerto Rico, which includes dairy and beef cattle, swine, poultry (broiler and laying hens), fish and shrimp, rabbits, goats and sheep, represents 48% of the Island's total gross agricultural income. This fiscal year it contributed with \$379,427 million (Department of Agriculture, Department of Statistics FY 2007-2008).

On-site farm visits were the main method used by PRAES agents to evaluate farm production techniques used as a means to improve the quality of animal products. They oriented farmers on the importance of maintaining farm animals in good health and promoted the following practices: control of environmental stress on animals keeping clean farm facilities, classifying the animals by age groups, and bio security.

Four hundred and thirty-two (432) persons acquired knowledge about recommended farm production practices regarding control and prevention programs, 259 adopted practices for the control of parasites on their farm.

One hundred and eighty-nine (189) farmers increased animal production after adopting the recommended practices. Two hundred (200) farmers improved animal reproduction practices, and 250 improved nutrient utilization practices in animals.

Crop Protection and Crop Production

The gross agricultural income for FY 2007-2008 was \$791.9 million (Puerto Rico Department of Agriculture). Animal and crop production represent 89% of this income. Crop production is the second in economic importance with a value of \$325.8 million during FY 2007-2008; an increase of \$4.3 million, as compared to FY 2006-2007. Crop commodities include fruit, vegetables, ornamentals, coffee, bananas, starchy crops, and plantain.

PRAES personnel offered 133 trainings on crop production on ornamentals and landscaping, five (5) on grains and legumes, 540 on vegetable crops, 314 on plantain, bananas and starchy crops, 178 on coffee, and 253 on fruit production.

Thirty-six (36) publications were prepared on cultivation practices and distributed in training meetings, fairs, and orientation visits. As a result, 66 farmers increased their crop production.

Farmers were oriented on the best practices to increase the value of their production. They were oriented on how to pack their products, attractive labeling, the promotion of their commodities, and processing part of the production as ready-to-cook products. Two hundred and sixty (260) farmers adopted practices to make their products more attractive to buyers as well as practices for value-added.

PRAES agents trained farmers on pest of economical importance that affect production and profitability of their crops. In banana and plantain, growers were trained on how to estimate the incidence of Black Sigatoka in the field. Coffee growers received training on the importance of using cultural practices, insecticide applications, and mechanical control of the coffee berry borers in an integrated approach to control the insect and avoid losses. Banana and plantain growers had a 40% reduction in pesticide use, after receiving training by PRAES agents in integrated management of Black Sigatoka and evaluation of disease incidence in the field. About 25% of the coffee growers used pheromone traps for coffee borer management.

A field guide on forest pest management was developed for agricultural educators and personnel of the Puerto Rico Department of Natural Resources and Environment. The guide includes key pests in nurseries and urban forest.

The plant protection program, in collaboration with the USDA Forest Service, assisted forest nurseries and personnel of

agencies related to forest management, developed IPM educational material, and updated the web page of the PRAES entomology specialist (<http://academic.uprm.edu/ofarrill>) with forest health information. The field guide and electronic presentation were posted on this web page. The crop protection specialists updated their web pages with new information on key pests in crops of importance, forest pests, and new exotic pests.

In herbs and herb production, PRAES personnel emphasized the identification of key pests of culantro (*Eringium foetidum*) and cilantro (*Coriandum satium*), prepared educational material on this subject and distributed it through trainings, fairs, and orientation visits.

In the citrus commodity, the PRAES crop protection personnel emphasized evaluation of IPM practices in nurseries to control the citrus leafminer. The Citrus Crop Profile is in draft form and will be final in May 2009. The publication is a coordinated effort of PRAES IPM specialist, the citrus commodity leader, and the fruit specialist. They developed several seminars to inform nursery managers, PRAES agents and other agricultural educators about the IPM practices available.

Engineering and Biosystems

Many of the structures and waste management systems of the farms in Puerto Rico are old and some were built without the necessary permits. Besides reducing the risk to human life, new and existing structures have to follow efficient engineering practices and must comply with the requirements of the Puerto Rico Building and Regulations Authority, the Environmental Quality Board, the Department of Health and other agencies in order to receive the necessary permits.

During FY 2007-2008, PRAES maintained 91 collaborations with different government agencies in Puerto Rico to improve engineering and biological systems infrastructure. Four hundred and nineteen (419) persons adopted one or more of the recommended practices to increase the efficiency of their structures and comply with all the permits.

Farmers have been trying to lower operating costs by reducing their irrigation schedules due to the instability in the costs of fuel. PRAES agents oriented them on the importance of keeping the schedules and complying with the regulations. As a result, 434 farmers increased their knowledge about animal waste regulations and the consequences of not complying with them and 16 reported increased production by managing their irrigation of drainage facilities. Farmers were most willing to follow the recommended practices and comply with regulations when they saw how they could be efficient and reduce operational costs using water more efficiently and applying wastewater to land as a fertilizer.

Economics, Marketing, and Policy

During FY 2008, farmers received the necessary education and technical assistance to strengthen their abilities as managers and entrepreneurs through the Economics, Marketing and Policy planned program. Different educational methodologies were used to provide intensive assistance in record keeping and evaluation of alternatives, tax management approaches, accounting methods, financial budgets for enterprises, credit and income statements, inventories, agricultural risk management, marketing strategies, and policies analysis.

Seventy (70) farmers and agricultural entrepreneurs adopted one or more economic practices; 45 used economic tools to make effective financial decisions to improve their business.

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

During FY 2008, PRAES and USDA NCRS continued their joint efforts to promote the management of rangelands through the development of educational activities geared to the implementation of recommended practices to protect the natural resources and the best management practices to use during farming.

High costs of ingredients used in feeds for livestock have driven farmers to adopt better management practices (BMP's) to improve their pastures to minimize the use of feeds. Sixty-three (63) farmers improved their pastures after adopting BMP's. After participating in on-site demonstrations, farmers adopted management practices to improve their pastures minimizing the use of fertilizers.

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 Services) non-government agencies, schools and the communities to promote and develop reforestation projects to enhance the natural environments around the communities.

Twenty-six (26) reforestation projects were established because of these joint efforts. These projects should help to reduce soil erosion and sedimentation of our watersheds and rivers and to conserve endangered native trees and habitats for wildlife species.

Fires destroy rangelands and forests and pollute the air of the communities near the affected areas. We conducted educational activities involving community leaders, farmers, and students at their schools to create awareness about fire prevention. As a result, 83 persons adopted fire prevention practices in forests and rangelands. PRAES specialists developed fire

prevention material for children, youth and farmers and participated in radio programs to create awareness and knowledge on the subject.

We continued our joint collaborations with different government agencies related with the Soil, Water, and Air planned program during FY 2007-2008.

PRAES' main goal is to train farmers on the appropriate management of soil, water, and air resources to increase yields and prevent contamination.

PRAES agricultural agents offered trainings and distributed educational material about good management practices to help maintain air and water quality. Forty-eight (48) farmers adopted the recommended practices.

The reduced capacity of watersheds in Puerto Rico to hold the required water supply for home use, farm operations and industrial uses are a cause of great concern. To deal with this problem, PRAES agents coordinated efforts with government agencies in Puerto Rico, and prepared and distributed educational material among farmers. Sixty-eight (68) farmers adopted practices and to protect watersheds. These practices included amendments to the Waste Disposal Plan and better fertilization management.

Families and Children

The family life specialist developed workshops, curricula, and trainings in successful parenting, character traits, values, family strengths, aging aspects, and life skills for families, children, youth and elderly people.

One thousand three hundred and twenty-four (1,324) persons increased their knowledge in parenting related areas, 136 persons in aging aspects, and 487 in values and character traits. One thousand two hundred and thirty-two (1,232) children and youth were benefited indirectly in human development and family-well-being.

Food Safety

The goal of the Food Safety Planned Program is to improve food safety through the control, reduction or elimination of contamination risks.

During FY 2008, 1,235 consumers completed the Fight BAC! courses. They adopted at least one safe food handling practice. The most adopted practice was hand washing (88%) and the least adopted was the use of a food thermometer to measure internal food temperature (53). Other practices adopted were as follow: avoiding cross contamination (73%), cleaning and sanitizing food contact surfaces (70%), and reducing to two hours the maximum time of exposure to dangerous temperatures.

Three thousand three hundred and thirty-nine (3,339) people completed the 12-lesson Food Safety course. Personnel from the Puerto Rico Department of Health and FDA collaborated in the courses. Of these, 93% approved the certification exam. The participants were persons in charge (PIC) of different types of food establishments. Thirty-eight percent (38%) of the PIC that approved the exam wrote a plan to control the temperatures of potentially hazardous foods and keep records.

Because of its educational efforts, PRAES has contributed to helping more than 2,000 local facilities to comply with the Food Code regulations and to continue providing safe food for their clients.

Healthy: No matter what my size or income

This planned program is based on the idea that a healthy body feels good and looks good "No matter what its size". The curriculum "Healthy: No matter what my size or income" was developed for this planned program.

During FY 2008, 4,059 persons completed a short course in nutrition, healthy weight, food preparation and/or food security. The short course consisted of 4 to 6 meetings in which the group identified areas of most interest. Of the 4,059 persons who completed the course, 1,351 recognized that they can prepare a meal for their family, 1,495 prepared a meals for the people who live with them, 796 prepared 1-dish meals, 724 prepared meals based on rice and beans with 1 to 2 ounces of meat, and 775 selected local food products for their meal preparation.

Human Health and Well-being

Health and disease have been the main concern of humans since antiquity. PRAES continued working in different partnerships with health and human services agencies to focus on collaborative efforts on the development of programs aimed at the promotion of health and the prevention of disease. Healthy lifestyles were promoted for people in both rural and urban areas, and high risk factors were addressed through the prevention and early detection of diseases, the prevention of injuries and disabilities, and the appropriate use of the health care system.

PRAES personnel designed projects to promote health in children and youth. They used different curriculum guides such as:

"Learning to be Healthy (HIV/AIDS Prevention" and "Towards a Drug Free Year 2000" for children and "Postponing sexual activity", "Human Sexuality", and "HIV/AIDS Prevention" for adolescents. The hygiene project "Enhancing your personal appearance" was also implemented.

Of 2,593 children and youth who completed non-formal health promotion programs, 2,089 (79%) adopted one or more of the recommended practices after completing one or more of the programs. The practices adopted were as follow: 176 children acquired skills in identifying and rejecting sexual abuse, 763 youth reported having acquired skills using assertive response to peer pressure, and 716 developed a personal hygiene program. In the area of drug prevention, 49 youngsters reported they acquired skills to deal with negative peer pressure.

Of 1,165 adults who completed non-formal education programs on topics related to health promotion, 1,013 (87%) reported that they reduced their risk levels upon completing the programs.

Five hundred and seventy-four (574) adults were oriented through physical activity education programs. Of these, 431 (75%) began to do 30 to 60 minutes of physical exercise on most days of the week and 461 (80%) incorporated physical activities to their lifestyle. Youngsters were encouraged to engage in organized physical activity. Two hundred and eighty-three (283) youth reported participating in organized physical activity.

Consumer Education and Individual and Family Resources

Financial education has gained interest among the public in recent years. The goal of the Consumer Education and Individual and Family Resources planned program is to increase the financial well-being of the consumers through knowledge, skills, and self-confidence in competencies such as: how consumers' behavior influences decision making, budgeting, debt reduction, credit-wise, savings and investment.

Four hundred and sixty-three (463) consumers prepared an individual family budget, 380 acquired skills on how to use their credit card, checking account, or their savings account, and 117 made plans to reduce credit card use.

Collaborations or coalitions were maintained with the Puerto Rico Departments of Consumer Affairs and Education, Consumer Credit Counseling, the IRS and other agencies working in matters related with consumer affairs.

Strengthening Youth Life Skills, Leadership, and their Community

The Puerto Rico Four-H and Youth Development program has indentified youth development as a major area of emphasis for its long-range educational program.

Three thousand six hundred and seventy-five (3,675) trainings and workshops in like skills and subject matter were offered. Eight hundred and forty six (846) children and youth reported improved decision-making skills, 924 children and youth reported having improved their communication and relationship with their parents and peers, and 668 children and youth reported improved conflict management skills.

Four hundred and fourteen (414) of youth/volunteers conducted community services programs. Twelve children/youth developed and established a community project to address a particular issue.

Community Resources Development and Empowering and Self-management Communities

During FY 2008, the Community Resources Planning and Development planned program experienced a total reengineering, developing a new set of non-formal educational methodology known as the Community Based Entrepreneurial Tool Box. The purpose was to move the participants of the program away from training and capacity building activities for specific jobs and crafts trainings to develop their entrepreneurial skills so that they can take full advantage of the skills, dexterity, talents, and service and production capacities already known to them.

Ninety-three (93) persons applied the recommended practices in the process of developing a community-based business. Six participants used their acquired grant writing skills to prepare and submit proposals to several granting institutions, such as the Puerto Rico government's office for Special Communities, Department of Agriculture, and Economic Development Bank, USDA, and others. Forty-three (43) participants were either certified or accredited as trained practitioners in craftsmanship, food production, and jewelry and apparel confection.

During 2008, we established an agreement of collaboration with the Socioeconomic Community Development program of the office for Special Communities to synchronize and coordinate efforts in developing and promoting emblematic community-based economic initiatives.

The Empowering and Self-management Communities planned program focuses its efforts in dealing with the social and economically disadvantaged communities, through trainings to community leaders in community organization and fostering empowerment and self-management.

As a result of training meetings offered by PRAES and the participative action research, 38 workshops on community organization and empowerment were developed and 94 communities were organized and prepared their plan of work in various

areas.

EVALUATION OF THE SUCCESS OF MULTI AND JOINT ACTIVITIES

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

Planned programs in PRAES are designed based on issues of critical importance, which are identified through different methods including the Stakeholder Input Process conducted at the Local Advisory Committees and at the state level organized by Program leaders and Extension Specialists. These give direction to the four major program areas, which in turn design different planned programs to address these issues. In the agricultural program area, activities such as the Enterprise Meetings of the Agriculture Experiment Station, Farm Bureau commodities meetings, the Merit Review Committee, and meetings with state and federal agencies contribute to the identification of the critical issues.

Recent critical issues identified are Coffee Bean Borer and Black Sigatoka (bananas disease), which have resulted in an aggressive educational strategy that has been integrated into the Plant Protection Planned Program. At the Consumer and Family Sciences (CFS) area a new curriculum is being developed to address the critical needs of the population 60 years and over, which is increasing and is underserved. The importance of continuing stressing the areas of budget, savings, credit, and obesity in our planned programs has also identified. The 4-H program area established an effective communication with youth, volunteers, and staff through stakeholder meetings, the Merit Review Process, and continued youth consulting. As a result, several educational activities were integrated in the planned programs, including new workshops that exposed the volunteer's to innovative strategies and projects to be more effective and successful in their community work. Also, collaborative efforts were conducted with CFS program area to expand the Youth Planned Program in the areas of economics, nutrition and health, and safety, which are still critical areas for youth. The program celebrated the first state consumer science bowl. Using a new guide prepared by the consumer science specialist, PRAES professionals and volunteers facilitated the learning experience in basic concepts of economics. The "Around the Economy Guide" promotes team group experiences and financial activities. In general, the youngsters learned about wants and needs, money, goal settings, and communication. Also, they improved their economic skills to perform in a daily life. The event had vast media coverage. The PR Department of Consumer Affairs was our partner to accomplish our goal to celebrate the first State 4H Youth Financial Bowl. CHEFS ("Exploring foods from the garden to the kitchen") is an all-inclusive program, designed by PRAES home economists and agricultural agents to assist 4Hers in developing skills to be healthier, improving eating habits using local products and procuring an active lifestyle. In the area of Community Development, the national economic crisis has increased the interest in the community for economic development, therefore a new curricular guide has been validated during this fiscal year to promote entrepreneurship skills at the individual and community levels in order to address this need.

2) How will the planned programs address the needs of under-served and under-represented population of the state(s)?

The planned programs in the agricultural area have the Small Farmers' Outreach Training and Technical Assistance project focused to the socially disadvantaged small farmers. They represent approximately 95% of the total number of farmers. In the CFS area, planned programs address the priority audience of low-income women heads of families. In addition, the Food Safety planned program offered a free certification course for owners who really do not have the resources to pay for the course, and served food for homeless people. During FY-2008, the 4-H and Youth development planned program put emphasis on creating activities where under-represented audiences can participate with special emphasis on educational activities for handicapped 4Hers. In the area of Community Development, educational activities are reaching more low income women, small farmers, and fishermen.

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

Every planned program at PRAES describes the expected outcome and impacts through outcome indicators, which are reported in the Electronic Reporting System that collects data throughout the state. Impacts are collected through local and state success stories and reported in impact statements in the federal Annual Report of Accomplishments. Some of the major outcomes in our planned programs during this year were as follow: 1) In the area of Agriculture around 800 farmers adopted IPM practices to control the Coffee Bean Borer and Black Sigatoka. 2) In the FCS program, major outcomes show that 93% (3,105) of the participants in the FS course passed the exam that certifies that they had acquired the necessary knowledge to prevent contamination in their food establishments. In addition, more than 50% of the participants in courses about family relations and financial management gained skills and adopted practices to improve the quality of life in their families. 3) In the 4-H Program area, more than 4,000 youth and 4-Hers participated in competitive and non-competitive activities and more than 35% demonstrated improved life skills such as team work and making healthy lifestyle choices. 4) In Community Development, around 50% of participants in community business training applied the recommended practices in the process of developing a community-based business.

4) How will the planned program result in improve program effectiveness and/or efficiency?

PRAES planned programs will continue to improve their efficiency through collaborative efforts with major agencies and institutions that work with similar audiences. For example: Planned programs in agriculture will continue to improve coordination with other agencies, participating in task forces to address specific issues, attending to Farm Bureau commodities meetings, developing educational material according to the needs of the farmers, organizing fairs and mass media communication to promote the planned programs' activities and expanding the electronic web pages. In the Youth Development, collaborative activities were very important and determinant in achieving this year's goals. These include collaboration with NOAA, National US Forest Service, and Department of Natural and Environmental Resources, which contributed to the transformation of the

youngsters' attitudes for the conservation, protection and participation in environmental initiatives. Other collaborations were from the PR Public Broadcast System, the Puerto Rico Departments of Consumer Affairs (DACO, Agriculture, and Transportation and Public Works, and the Puerto Rico Office for Youth Issues. Planned programs will continue to be effective by increasing changes in knowledge, skills, practices and conditions in our participants, the families and the communities, as they are focused on the most critical needs of our people. There will be continuous up-dates and improvement of our educational material in order to address these critical needs.

Total Actual Amount of professional FTEs/SYs for this State

Year:2008	Extension		Research	
	1862	1890	1862	1890
Plan	198.2	0.0	0.0	0.0
Actual	184.5	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 Non-University Panel

2. Brief Explanation

The Merit Review process was conducted through the four committees that were established, representing each of 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 related to this POW. The program area leaders together with other Extension staff, then defined educational strategies to address the recommendations, which were incorporated in the final POW, as needed. During the second committee meeting, the program area leaders presented an oral and written report that identified how the committee recommendations were addressed and the Annual Report of Accomplishments.

III. Stakeholder Input

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

- Targeted invitation to traditional stakeholder individuals

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 from local agencies that work with similar audiences as Extension. To encourage their participation, potential members are introduced (through letters sent by the county agents) to the importance of the process and of 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

Brief Explanation

The members of these committees have been selected by the Extension agents from among their target audience, based on their experience and participation in the Extension programs and have been invited by mail to join the committee.

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 individuals
- Other (Focus group)

Brief Explanation

The process to collect the stakeholder input took place through meetings held by the committees. The committees met twice during the year to discuss critical local issues, as well as to 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.

3. A statement of how the input was considered

- To Identify Emerging Issues
- Redirect Extension Programs
- In the Action Plans
- To Set Priorities

Brief Explanation

Input collected from stakeholders at the local advisory committees is reported to the state level. This data is evaluated in order to identify emerging issues that should be included in the state plan of work. 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 year, the issues most mentioned by the stakeholders were environmental issues, protection of agricultural lands, the needs of the elderly adults, family financial management, and community economic development. The stakeholders expressed their satisfaction with Extension programs, however recommend that these areas 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
6138690	0	0	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	6138690	0	0	0
Actual Matching	3069345	0	0	0
Actual All Other	0	0	0	0
Total Actual Expended	9208035	0	0	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	204956	0	0	0

V. Planned Program Table of Content

S. NO.	PROGRAM NAME
1	Human Health and Well-Being
2	Consumer Education and Individual and Family Resources Management
3	Food Safety Program
4	Strengthening Youth Life Skills, Leadership and Their Community
5	Crop Production
6	Engineering and Biosystems
7	Families and Children
8	Empowering and Self-management Communities
9	Plant Protection
10	Natural Resources and Environment - Soil, Water, and Air
11	Healthy: No matter what my size or income
12	Management of Rangeland and Forestry Resources
13	Animal Protection
14	Community Resources Planning and Development
15	Economics, Marketing and Policy
16	Animal Production

Program #1**V(A). Planned Program (Summary)****1. Name of the Planned Program**

Human Health and Well-Being

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
724	Healthy Lifestyle	90%			
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	10%			
	Total	100%			

V(C). Planned Program (Inputs)**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	9.2	0.0	0.0	0.0
Actual	5.3	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
176342	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
88171	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**

•Conference/ training related to healthy lifestyle. •Conference/ training related to diabetes. •Conference/ training related to injury prevention. •Conference/ training related to indoor air quality. •Offer counseling in the areas of health and safety. •Workin collaboration with the communication media. •Prepare educational materials. •Continue working in partnership with other agencies to develop educational programs.

2. Brief description of the target audience

Extension professionals (in service training), individuals interested in promotion/preventing diseases and professionals from other agencies, low-inocme families, community leaders, and the general public.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	4000	5000	4000	1500
2008	7651	4305	8372	1005

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of persons that completed non-formal health education and health promotion programs

Year	Target	Actual
2008	1100	3804

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 persons that learned about risk reduction and safety
4	Number of persons that learned about indoor air contamination
5	Number of persons that detected and controlled indoor air contaminants in their homes
6	Number of persons that acquired skills and modified attitudes and practices related to injury prevention

Outcome #1**1. Outcome Measures**

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	800	3102

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The general health status is the product of influences from the general environment, genetics and numerous specific risk factors associated to unhealthy behaviors, such as: poor diet, use and abuse of alcohol and other drugs, physical inactivity, unattended high blood pressure and diabetes, and sexual behavior (for example, leading to infection or teenage pregnancy). Adopting healthy behaviors such as eating nutritious foods, being physically active, and avoiding the use of tobacco can prevent or control diseases.

What has been done

PRAES personnel implemented projects to promote health which were designed for children and youth. Different curricula guides were used, such as: 'Learning to be Healthy' (HIV/AIDS prevention) and 'Toward a Drug Free Year 2000' for children, and the 'Postponing Sexual Activity', 'Human Sexuality', and 'HIV/AIDS Prevention' for adolescents. The hygiene project 'Enhancing your Personal Appearance' was also implemented.

Adults were oriented in the areas of healthy lifestyles and human sexuality.

Results

Of 2,593 children and youth who completed non-formal health promotion programs, 2,089 (79%) adopted one or more recommended practices after completing one or more of the programs. The practices adopted were, as follow: 176 children acquired skills in identifying and rejecting sexual abuse, 763 youth reported having acquired skills on assertive response to peer pressure, and 716 developed a personal hygiene program. In the area of drug prevention, 49 youngsters reported they acquired skills to deal with negative peer pressure. Of a total of 1,165 adults who completed non-formal education programs on topics related to health promotion, 1,013 (87%) reported that they reduced their risk levels upon completing the programs. The improvement areas were as follow: 289 have maintained and kept their blood sugar and cholesterol levels under control and 307 check their blood pressure levels and maintain them to normal.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #2**1. Outcome Measures**

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	500	1056

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Despite the clear health benefits of regular physical activity, during 2007 only 30.7% of Puerto Ricans adults reported that they engaged 30+ minutes of moderate physical activity five or more days per week, or 20+ minutes of vigorous physical activity for three or more days per week (PRBRFSS, 2009). According to the Surgeon General Americans can substantially improve their health and quality of life by including moderate amounts of physical activity in their daily lives. There is an emerging consensus among experts in exercise science and health professionals that recognize that physical activity need not be of vigorous intensity for it to improve health.

What has been done

Adults and youth were trained about the importance of engaging in regular physical activity and reducing sedentary activities to promote health, psychological well-being, and a healthy body weight. They were informed that they should get at least 30 minutes of moderate-intensity physical activity, beyond their usual activity, at work or home during most days of the week to lower the risk of chronic disease.

Results

Five hundred and seventy-four (574) adults were oriented through physical activity education programs. Of these, 431 (75%) began to do 30 to 60 minutes of physical exercise on most days of the week and 461 (80%) incorporated physical activities in their lifestyle. Youngsters were encourage to engage in regular activity and 482 reported having engaged in organized physical activity.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #3**1. Outcome Measures**

Number of persons that learned about risk reduction and safety

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	600	858

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Accidents, the ninth cause of death (Department of Health, 2009), are a significant threat to adults and older people, causing death and an extraordinary number of disabilities. It is necessary to educate individuals in risk reduction and safety through injury prevention programs.

What has been done

PRAES audiences were oriented on risk reduction and safety to encourage them to incorporate safety habits in their lives. Children and youth were oriented through the curricula guide 'Prevention of Accidents and Rejection of Drugs and Alcohol' (PAnDA) and injury prevention project. Adults were oriented through the project 'Prevention of Injury Using Safety' (PLUS) developed to prepare individuals and families to take the correct steps in case of an emergency.

Results

Eight hundred and fifty-eight (858) individuals (388 children and youth and 470 adults) were oriented through risk reduction educational programs. One hundred and fifty-seven (157) children and youth reported having acquired knowledge in the prevention of traffic accidents, 107 can mention three types of drugs and their effects on health, and 231 reported having acquired knowledge about injury prevention through traffic accidents prevention education programs (PAnDA). Four hundred and seventy (470) adults were oriented in injury prevention and first aid and acquired knowledge on the topic.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

Number of persons that learned about indoor air contamination

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	500	290

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Most people spend approximately 90% of their time indoors. This can be highly harmful to their health, if we consider the scientific evidence, which indicates that toxic levels in air in interiors can be higher than the outdoor air in even the largest and most industrialized cities. The lung is the most common site of injury by airborne pollutants. Pneumonia and influenza are the sixth leading cause of death in Puerto Rico. Toxic indoor air would be an issue of concern in this situation.

What has been done

In the 'Protect the Air You Breathe' an Indoor Air Quality project (IAQ) youth were trained about indoor air contaminants, their effects on human health, and their mitigation. They were also trained about the 4-H IAQ health project and participated in the 4-H IAQ competitions at the local and regional levels. Adults participated in the 'Healthy Indoor Air for America's Homes' program, emphasizing on second-hand smoke and asthma prevention.

Results

About 169 youth were enrolled in the IAQ health project. They all (100%) reported having acquired knowledge. One hundred and six (106) of the youngsters in the IAQ project participated in the 4H IAQ competitions at the local and regional level.

4. Associated Knowledge Areas

KA Code	Knowledge Area
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #5

1. Outcome Measures

Number of persons that detected and controlled indoor air contaminants in their homes

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	290

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

A number of studies have linked indoor chemicals to allergies, asthma, birth defects and learning disabilities in children. The most frequently identified threats to air quality include formaldehyde in home renovation products, solvents from fresh paint, and chemicals known as phthalates, which are commonly used in soft plastics and synthetic fragrances.

What has been done

In the 'Protect the Air You Breathe an Indoor Air Quality (IAQ) Project' youngsters were trained about the 4H IAQ health project and participated in the 4-H IAQ competitions at local and regional level. Adults participated in the 'Healthy Indoor Air for America's Homes' program, which emphasizes on second-hand smoke and asthma prevention.

Results

169 youngsters completed the short course 'Youth Protect the Air You Breathe an Indoor Air Quality Project'; of these, 106 (63%) participate in IAQ 4-H competitions, 169 (100%) limited and used more wisely products with volatile organic compounds (VOCs); 150 (89%) promoted non-smoking, and 160 (95%) detected and removed biological hazards in their homes. About 110 adults learned about indoor air contamination through short courses, seminars, and home assessment. Of these, 78 (71%) took steps to maintain the air conditioning equipment in optimum conditions, 101 (92%) improved/corrected moisture levels in the home, 110 (100%) detected and controlled indoor air contaminants, 66 (60%) took steps to check/maintain/correct combustion appliances, and 121 (100%) detected and removed biological hazards.

4. Associated Knowledge Areas

KA Code	Knowledge Area
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #6**1. Outcome Measures**

Number of persons that acquired skills and modified attitudes and practices related to injury prevention

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	356

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

There is some concern among policymakers about both the cost and health implications of inappropriate use and overuse and of emergency rooms. A recent study made by the Office of Patient Advocacy ('Oficina de la Procuradora del Paciente') found that 64.3% of the persons that visited hospital emergency rooms brought major and minor medical problems, but not urgent conditions. People need to know how to identify the signs and symptoms that require a visit to the emergency room.

What has been done

PRAES audiences were oriented on risk reduction and safety to encourage them to incorporate safety habits in their lives. Children and youth were oriented through the curricula guide 'Prevention of Accidents and Rejection Drugs and Alcohol' (PAnDA) and the injury project and adults through the 'Prevention of Injury Using Safety' (PLUS) project developed to prepare individuals and families to take the correct steps in case of an emergency.

Results

Three hundred and eight-eight (388) youth were oriented through injury prevention education programs and 356 (92%) adopted one or more of the recommended practice. Of these, 92 began to use a helmet, 150 take pedestrian and cyclist safety measures, 75 prepared a first aid kit, and 218 demonstrated the steps to make a call to the emergency services (911).

Of 460 adults oriented in risk reduction and safety, 327 acquired skills and modified attitudes and practices related to injury prevention at home, 312 adopted practices to prevent poisoning, 273 prepared a first aid kit, and 411 demonstrated the steps to make a call to the emergency services (911).

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Competing Programmatic Challenges
- Other (Specials projects, Community wide health events)

Brief Explanation

The number of contacts reached was greater than projected due to the amount of a variety of community-wide health events that were celebrated during the year. The outcomes had an increase due to special projects conducted with youth and the refocusing of the agents' work toward the populations actual needs.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

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Evaluation Results**Key Items of Evaluation**

Program #2**V(A). Planned Program (Summary)****1. Name of the Planned Program**

Consumer Education and Individual and Family Resources Management

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	20%			
801	Individual and Family Resource Management	80%			
	Total	100%			

V(C). Planned Program (Inputs)**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	9.2	0.0	0.0	0.0
Actual	9.4	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
312757	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
156379	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**

- Curriculum and educational materials development
- Training the trainers
- Workshops
- Establishment of collaborations
- Consulting
- Media programs
- Exhibitions (Billboards in malls and public places with informative brochures and other educational material)

2. Brief description of the target audience

New couples, individuals, low-income families, Extension professionals, personnel from other State agencies.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	3200	4500	0	0
2008	3078	1595	2428	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Total number of consumers that completed the Consumer Education Course.

Year	Target	Actual
2008	325	1238

Output #2

Output Measure

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

Year	Target	Actual
2008	325	687

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Total number of consumers that prepared an individual or family budget (Family Resource Management)
2	Total number of consumers that adopted the practice of preparing their individual or family budget (Family Resource Management)
3	Total number of consumers that acquired skills on how to use their credit card, their checking account, or their savings account. (Family Resource Management)
4	Total number of consumers that made plans to reduce credit card use. (Family Resource Management)
5	Total number of consumers that adopted debt reduction.(Family Resource Management)
6	Total number of consumers that acquired knowledge about track spending patterns. (Family Resource Management)
7	Total number of consumers that adopted practices on how to save.(Family Resource Management)
8	Number of consumers that opened a savings account. (Family Resource Management)
9	Number of consumers that acquired knowledge to request their credit record. (Family Resource Management)
10	Number of consumers that improved their financial well-being.
11	Total number of consumers that acquired knowledge about consumption decision-making process (Consumer Education course)
12	Total number of consumers that acquired knowledge about their rights and responsibilities as consumers (Consumer Education course)
13	Total number of consumers that acquired skills on how to differentiate between needs and desires. (Consumer Education course)
14	Total number of consumers that acquired skills to avoid the influence of publicity and marketing on decision-making. (Consumer Education course)
15	Total number of consumers that adopted savings practices through goods and services selection process. (Consumer Education course)
16	Total number of consumers that acquired knowledge to establish goals and objectives (Family Resource Management)
17	Total number of consumers that acquired knowledge about saving. (Family Resource Management)

Outcome #1**1. Outcome Measures**

Total number of consumers that prepared an individual or family budget
(Family Resource Management)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	463

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #2**1. Outcome Measures**

Total number of consumers that adopted the practice of preparing their
individual or family budget (Family Resource Management)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	225	820

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #3**1. Outcome Measures**

Total number of consumers that acquired skills on how to use their credit card, their checking account, or their savings account. (Family Resource Management)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	380

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #4**1. Outcome Measures**

Total number of consumers that made plans to reduce credit card use. (Family Resource Management)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	225	117

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #5

1. Outcome Measures

Total number of consumers that adopted debt reduction.(Family Resource Management)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	225	145

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #6

1. Outcome Measures

Total number of consumers that acquired knowledge about track spending patterns. (Family Resource Management)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	452

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #7

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	225	962

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #8

1. Outcome Measures

Number of consumers that opened a savings account. (Family Resource Management)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	175	44

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #9**1. Outcome Measures**

Number of consumers that acquired knowledge to request their credit record.
(Family Resource Management)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	51

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #10

1. Outcome Measures

Number of consumers that improved their financial well-being.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	55	64

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #11**1. Outcome Measures**

Total number of consumers that acquired knowledge about consumption decision-making process (Consumer Education course)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	656

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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Outcome #12**1. Outcome Measures**

Total number of consumers that acquired knowledge about their rights and responsibilities as consumers (Consumer Education course)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	579

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics

Outcome #13**1. Outcome Measures**

Total number of consumers that acquired skills on how to differentiate between needs and desires. (Consumer Education course)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	640

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics

Outcome #14**1. Outcome Measures**

Total number of consumers that acquired skills to avoid the influence of publicity and marketing on decision-making. (Consumer Education course)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	1170

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics

Outcome #15**1. Outcome Measures**

Total 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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	225	747

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
607	Consumer Economics

Outcome #16

1. Outcome Measures

Total number of consumers that acquired knowledge to establish goals and objectives (Family Resource Management)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	419

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #17

1. Outcome Measures

Total number of consumers that acquired knowledge about saving. (Family Resource Management)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	224

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Other (development of new material)

Brief Explanation

The development of new material affected the planned program positively increasing the amount of people reached through our educational efforts.

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

1. Evaluation Studies Planned

- Retrospective (post program)

Evaluation Results

During this year we concluded the first phase of developing and pre-testing an instrument to measure changes in knowledge and skills acquired by youth after completing a course on financial and economic education. This is being used during FY 2009 with a sample of participants in the 4-H clubs.

Key Items of Evaluation

This planned program is still in the validation phase.

Program #3

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food Safety Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	100%			
Total		100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	8.2	0.0	0.0	0.0
Actual	6.9	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
229577	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
114789	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

For Consumers

Fight BAC! Courses: The teaching field personnel will select a minimum of four lessons out of eight available based on the needs of consumers.

- Protect your baby: Includes four lessons, brochures, and flip chart addressed to pregnant women and mothers with infants.

- Course and competition Nutritional & innocuous recipes: This includes three lessons:
- Developing nutritional & innocuous recipes.
- Steps to prepare innocuous recipes.
- Puerto Rico Food Pyramid) and competition on the preparation of original nutritional and innocuous recipes.
- Exhibitions, information centers, radio programs, and other activities.

Persons in charge (PIC) of food establishments

- Continue training and coordination using home economists to offer FSCC (13 lessons) to PIC.

- Specialists provide follow-up to the implementation of the HACCP system.

PRAES and personnel of other agencies:

- Trainings: Emphasis on institutions that serve foods to high risk clientele in the FC regulations, "Hazard Analysis Critical Control Point", Food Defense, and other themes.

- Specialized advising

Persons in charge (PIC) of food processor plants, packaging and distribution (GMP, HACCP, SSOP):

- Trainings and Specialized advising

2. Brief description of the target audience

- Fight BAC courses: Consumers, with emphasis on young mothers and susceptible groups (elderly, children, adolescents, and others).
- Food Safety Certificate Course: PIC of foods in high risk institutions (school lunch program, children and elderly day care centers, and others), Owners/administrators, managers and food employees-Will give special attention to oystermen booths and improvised food establishments.
- Training and specialized advising to professionals: Specialists, home economists and agricultural agents; Administrators of institutions that serve susceptible populations; Environment health inspectors, nutritionists, educators, agronomists, and others; Graduates students of the Food Science and Technology Program; Universities students; The professionals of institutions that belong (public educators) to the Partnership for Food Safety Education.
- Advising and technical help in food processor plants: Owners/administrators, managers and food production and packaging supervisors; Persons that transport and distribute food products.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	12100	9000	0	0
2008	9747	2562	0	0

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

Patent Applications Submitted

Year **Target**
Plan: 0

2008 : 0

Patents listed**3. Publications (Standard General Output Measure)****Number of Peer Reviewed Publications**

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs**Output Target****Output #1****Output Measure**

- Number of consumers completing one educational curriculum.

Year	Target	Actual
2008	1200	1235

Output #2**Output Measure**

- Number of participants that completed FSCC.

Year	Target	Actual
2008	2500	3339

Output #3**Output Measure**

- Number of technical help in HACCP, GMP and/or SSOP provides through visits, documents evaluation for revision or writing, to take samples, and others.

Year	Target	Actual
2008	4	3

Output #4**Output Measure**

- Number HACCP, GMP y/o SSOP documents evaluated, corrected or written.

Year	Target	Actual
2008	3	2

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of consumers that adopted one or more food handling practices.
2	Number of participants that approved the certification exam.
3	Number of participants that wrote a plan to control the temperatures in Potentially Hazardous Foods (PHF).
4	Number of participants that adopted 15 or more of 20 selected food handling practices recommended by the Food Code.
5	Number of facilities that implement prepared or corrected HACCP plan as a result of the technical help offered.
6	Number of facilities improving or modifying the existing GMP and SSOP as a result of the technical help offered.

Outcome #1**1. Outcome Measures**

Number of consumers that adopted one or more food handling practices.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1000	1235

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Consumers who attend the Food Safety achieved knowledge on the proper food handling practices. When consumers handle food safely they protect their families from foodborne illnesses. According to research, consumers have increased knowledge about foodborne pathogens, high-risk foods, and high-risk populations, but their knowledge is sometimes wrong or incomplete. Consumers also do not always follow practices to minimize pathogens.

What has been done

During FY 2008, 1235 consumers completed Fight BAC Courses. PRAES home economists offered Fight BAC courses with a minimum of four lessons. They offered at least one of the Fight BAC campaign Steps: Separate, Cook, Chill and Don't Cross Contaminate. Volunteer leaders also participated in coordinating and offering these lessons.

Results

Consumers adopted at least one safe food handling practice. The most adopted practice was hand washing with an 88% of the participants and the least adopted was the use of a food thermometer to measure food temperature, where 53% of the consumers said that they used a food thermometer. Other adopted practices were: avoiding cross contamination (73%), cleaning and sanitizing food contact surfaces (70%), and reducing to two hours the maximum time exposure to dangerous temperatures.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #2**1. Outcome Measures**

Number of participants that approved the certification exam.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2500	3105

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

According to the Food Code, persons in charge (PIC) of food establishments are required to demonstrate knowledge in safe food handling practices. During this past fiscal year, health inspectors have withheld their sanitary license and food establishments can not operate without one. Therefore, the PRAES' Food Safety course (FSC) is a critical need for food establishments.

What has been done

Three thousand three hundred and thirty-nine (3,339) participants completed the 12-lesson Food Safety course. Personnel from the Puerto Rico Department of Health and FDA also collaborated in the courses.

Results

Of the 3,339 PIC participants, 93% approved the FS exam. These participants were in charge of different types of food establishments, which include: the School Lunch Program, the Head Start Program, cafeterias, restaurants, and vending carts among others. PRAES has contributed to allow more than 2,000 local facilities comply with the Food Code regulations and to continue providing safe food for their clients.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #3**1. Outcome Measures**

Number of participants that wrote a plan to control the temperatures in Potentially Hazardous Foods (PHF).

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1200	1175

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Among the most recent changes made to the Department of Health's inspection report is that inspectors verify if cooking temperatures are being measured and documented at the food establishments. Cooking temperatures are critical when talking about safe food handling. It is a means by which we can destroy bacteria and reduce the possibility of foodborne illnesses.

What has been done

In the FSC, home economists talk about these cooking and maintenance temperatures. They provide examples of sheets, which PIC can be adapt to the establishments' particular needs, in order to record the food temperatures. They also provide each participant with a poster with all the proper cooking temperatures and how to measure them.

Results

Thirty eight per cent (38%) of the PIC that approved the PSC wrote a plan to control the temperatures in potentially hazardous foods.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #4

1. Outcome Measures

Number of participants that adopted 15 or more of 20 selected food handling practices recommended by the Food Code.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1750	1609

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

One of the main objectives of the FSC is that participants, besides acquiring knowledge, adopt safe food handling practices. Food establishments must comply with the 2005 Food Code. The ultimate goal is to prevent foodborne illnesses. When a health inspector visits an establishment, not only will he/she verify if the PIC is trained, but will also ask food safety questions according to the knowledge requirements of the Food Code 2005.

What has been done

The health inspector refers the FIC to obtain an endorsement or license to operate. He/she then verifies the knowledge of the PIC, by asking questions and observing if recommended practices learned in the FSC have been adopted. Studies reveal that the major difference between restaurants with foodborne disease outbreaks and those with non is the presence of a certified kitchen manager (Hedberg, C.W., et. al, 2006).

Results

More than half of the 3,339 participants adopted at least 15 safe food handling practices. Among the practices adopted were: proper hand washing procedures (56%); using separate cutting boards (46%), and verifying food holding temperatures (39%). Also, 45% reported using disposable gloves when handling ready to eat food; 52% reported proper dishwashing and sanitizing methods; 40% contracted a licensed exterminator, 52% prepared a food temperature log., and 40% reported to have an employee health policy in which employees must report if they are diagnosed with one of the big five.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #5**1. Outcome Measures**

Number of facilities that implement prepared or corrected HACCP plan as a result of the technical help offered.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	3	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Some PIC of food establishments that serve at-risk population and that completed the PRAES FSC, have expressed their interest in preparing a HACCP Plan. The Food Code regulations are for retail food establishments that do not require a HACCP plan; however, after participating in our FSC, they understood the importance of a HACCP Plan. Usually, PIC of establishments with an at-risk population are the most likely to ask about the HACCP Plan because they recognize that their population is at greater risk of food borne illnesses.

What has been done

The PRAES FSC includes a lesson on HACCP principles and the basics of how to prepare one. Home economists are trained to assist the clientele that asks for help in doing so.

Results

Two PIC of food establishments, such as children's day care centers and homes for the elderly have prepared their HACCP Plan as a result of the guidance offered by PRAES home economists. They decided to prepare a plan because they wanted and recognized the benefits of having one. Studies reveal that having a HACCP plan results in savings in costs due to a reduction in foodborne illnesses.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #6**1. Outcome Measures**

Number of facilities improving or modifying the existing GMP and SSOP as a result of the technical help offered.

Not reporting on this Outcome for this Annual Report

V(H). Planned Program (External Factors)**External factors which affected outcomes**

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

Brief Explanation

Puerto Rico is going through a major financial crisis. Businesses in general have felt the effect of the unstable economy and many establishments have gone out of business. The working class prefers to bring lunch from home than to eat out. Many PIC believe that to comply with the regulations and HACCP Plan they must invest money in their establishments and this is not always the case. PIC try to comply with the least requirements of the Department of Health. On the other hand, this past year we were hit with major floods that affected some of the courses that were planned, and had to be canceled or postponed.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

-

Evaluation Results

We are designing a new evaluation instrument and will be validating it during this fiscal year.

Key Items of Evaluation

Program #4

V(A). Planned Program (Summary)

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%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	43.6	0.0	0.0	0.0
Actual	39.3	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
1307591	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
653795	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

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1500	0	50000	20000
2008	6983	0	60162	17887

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	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.

Year	Target	Actual
2008	500	3675

Output #2**Output Measure**

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

Year	Target	Actual
2008	1000	1371

Output #3**Output Measure**

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

Year	Target	Actual
2008	5000	4249

Output #4**Output Measure**

- Number of youth who participated in community service projects.

Year	Target	Actual
2008	500	178

Output #5**Output Measure**

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

Year	Target	Actual
2008	5000	7534

Output #6**Output Measure**

- Number of youth and others volunteers working with youth in youth development programming.

Year	Target	Actual
2008	800	980

Output #7**Output Measure**

- Number of children/youth participating in youth leadership programs.

Year	Target	Actual
2008	1000	711

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of children/youth who reported working in one or more educational project areas.
2	Number of children/youth who reported improved decision making skills.
3	Number of children/youth who reported improved communication relationships with parents or peers.
4	Number of children/youth who assumed leadership roles.
5	Number of children/youth who reported improved conflict management skills.
6	Number of children/youth who reported improved planning and organization skills.
7	Number of youth volunteers conducting community service programs.
8	Number of children/youth who developed and established a community projects to address a particular issue.
9	Number of children/youth who demonstrated improved self-esteem skills.
10	Number of children/youth who demonstrated improved skills in managing their feelings.
11	Number of children/youth who demonstrated improved teamwork skills.
12	Number of children/youth who demonstrated improved healthy life-style choices skills.
13	Number of children/youth who demonstrated improved service learning skills.

Outcome #1**1. Outcome Measures**

Number of children/youth who reported working in one or more educational project areas.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1000	447

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #2**1. Outcome Measures**

Number of children/youth who reported improved decision making skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	800	846

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #3

1. Outcome Measures

Number of children/youth who reported improved communication relationships with parents or peers.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1800	924

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

Number of children/youth who assumed leadership roles.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	205

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

Outcome #5**1. Outcome Measures**

Number of children/youth who reported improved conflict management skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1000	668

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

Outcome #6**1. Outcome Measures**

Number of children/youth who reported improved planning and organization skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2400	868

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done**Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

Outcome #7**1. Outcome Measures**

Number of youth volunteers conducting community service programs.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	250	414

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done**Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

Outcome #8**1. Outcome Measures**

Number of children/youth who developed and established a community projects to address a particular issue.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #9

1. Outcome Measures

Number of children/youth who demonstrated improved self-esteem skills.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1000	823

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #10

1. Outcome Measures

Number of children/youth who demonstrated improved skills in managing their feelings.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1000	569

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #11

1. Outcome Measures

Number of children/youth who demonstrated improved teamwork skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1000	1975

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #12

1. Outcome Measures

Number of children/youth who demonstrated improved healthy life-style choices skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1000	1495

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #13

1. Outcome Measures

Number of children/youth who demonstrated improved service learning skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1000	939

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

- During (during program)

Evaluation Results

Key Items of Evaluation

Program #5**V(A). Planned Program (Summary)****1. Name of the Planned Program**

Crop Production

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)	30%			
205	Plant Management Systems	70%			
	Total	100%			

V(C). Planned Program (Inputs)**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	16.7	0.0	0.0	0.0
Actual	19.3	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
642150	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
321075	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**

- Production trainings were offered in ornamentals and landscaping (133); Grains (5,); vegetable crops (540); plantain, bananas and starchy crops (314); coffee production (178); and fruit production (253).
- Farmers visits and guidance.
- Farmers' meetings were conducted.
- Collaboration with local government agencies (Departments of Agriculture and Environmental and Natural Resources) and USDA (NRCS and others).
- Prepared cultivation practices plan. The Extension crops specialist prepared plans on recommended practices for PRAES agents to orient farmers.
- Prepared products quality improvement plan.
- Distributed publications. The publications were distributed in trainings, fairs, and orientation visits.
- Thirty-six (36) publications were prepared and distributed by Extension specialists in their different specialist areas.

2. Brief description of the target audience

The crop production program's target audience consists of farmers, government professionals, county agents, USDA professionals, products distributors, and professionals from the private sector.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	5000	3000	0	0
2008	24396	22303	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	4	0	
2008	2	0	2

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of persons trained on plant management systems in crop commodities.

Year	Target	Actual
2008	1200	9775

Output #2

Output Measure

- Number of persons trained on products quality in crop commodities.

Year	Target	Actual
2008	700	7097

Output #3

Output Measure

- Number of persons trained on value added in crop commodities.

Year	Target	Actual
2008	400	1351

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.

Outcome #1**1. Outcome Measures**

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	700	3006

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

There is a serious problem with the sigatoka in plantain and bananas, the presence of the greening vector in citrus, and the Broca insect in coffee which have affected the crop production sector. PRAES agents prepared a plan focussing on orienting farmers on the best management practices to control the diseases and insects in their crops.

What has been done

PRAES agents visited farmers to evaluate the insect and disease problems of the farms and oriented them on the best management practices for their crops through training, orientation visits, educational material distributed.

Results

Farmers have become aware of the need to use the best management practices control insects and diseases in their crops. Four new farmers adopted the recommended management practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #2**1. Outcome Measures**

Number of farmers that increased production in crop commodities.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	475	661

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

With the new problems in some commodities, production has been affected. PRAES agents saw the need of orienting farmers on the use of correct management practices help them increase their production.

What has been done

The farmers were oriented on fertilizer programs, insect and diseases control, and postharvest management through trainings offered, farm orientation visits and educational material distributed.

Results

As a result of the orientation and trainings, and farm visits of PRAES agents , 661 farmers increased the production of their crops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #3

1. Outcome Measures

Number of farmers that increased the quality in crop commodities.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	400	1076

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

With disease problem in plantain and bananas, the presence of the greening vector in citrus, and Broca insect in coffee the quality of crops was affected, reducing . PRAES agents oriented farmers on the required practices for control of diseases and best management practices to increase the quality of their commodities.

What has been done

More farmers were encouraged by PRAES agents to attend the trainings and were offered educational material produced about the specific diseases and insects affecting their crops.

Results

With the training programs and educational material more farmers adopted better practices and increased the quality of their commodities production.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers have been affected with the increase of imported products which compete with their products in the markets. This has resulted in the need of an increase in the value-added to their products and for PRAES agents to prepare trainings and material to orient farmers on the subject.

What has been done

The farmers were oriented in the best practices to increase the value of their production. Extension Agents oriented to the farmers in practices such as packing of products in the farm, attractive label, the promotion of the commodities, and processing part of the production in ready-to-cook products through trainings and educational material.

Results

Two hundred and sixty (260) farmers adopted practices for making their products more attractive to the buyers and the adoption of value-added practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)

Outcome #5**1. Outcome Measures**

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 Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

There was an increase in crop production costs and a decrease in sales due to competing imported products and poor quality of the local products due to diseases, insects and adverse effects of the climate (excessive heat, strong winds, and flooding). Extension agents prepared a plan to orient farmers on the best management practices to improve the production and quality of their products and to be able to compete in a more favorable position.

What has been done

The farmers were trained and oriented on the correct management and handling practices to improve production, make their products more attractive and be able to increase the price of their products to their income.

Results

Six hundred and ninety-five farmers increased production, quality and price of their products through better management practices. This made products more attractive to buyers and resulted in an increase in sales and income.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems

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
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Imports from other countries)

Brief Explanation

Puerto Rico, being a tropical island in the Caribbean, can be affected by natural disasters that in turn can have devastating effects on our agriculture, especially crop production. Long periods with too much rain or without rain and hurricanes are common. High winds and rain from tropical storms (hurricanes) affect production and product quality and increase the dependence on imported products. Changes in the economy and public policies cause farmers to change their priorities and reduce their farm capital. When the general feeling in the economy is positive, the farmers are more aggressive in their farm investments.

Puerto Rico depends on imports of food products to supply the food demand. Changes in prices and the quantity of products from other countries affect local production and compete with our products in the local markets.

The success of crop production programs depends on the amount of time allocated by PRAES county agents and crop specialists. Changes in program priorities by the administration have negative effects on program goals.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- Case Study

Evaluation Results

Key Items of Evaluation

Program #6**V(A). Planned Program (Summary)****1. Name of the Planned Program**

Engineering and Biosystems

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
401	Structures, Facilities, and General Purpose Farm Supplies	15%			
402	Engineering Systems and Equipment	10%			
403	Waste Disposal, Recycling, and Reuse	65%			
405	Drainage and Irrigation Systems and Facilities	10%			
	Total	100%			

V(C). Planned Program (Inputs)**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	0.0	0.0	0.0
Actual	6.2	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
206287	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
103143	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**

- Conduct workshops and meetings.
- Establish collaborations with government agencies (Environmental Quality Board; State Departments of Health, Agriculture, Environmental and Natural Resources, and Education; Puerto Rico Aqueducts and Sewage Authority; USEPA; USDA; NRCS; and others).
 - Establish collaborations with our partners in the University of Puerto Rico and other educational institutions.
 - Develop educational material consisting of model plans and specifications for structures.
 - Distribute plans and specifications for structures.
 - Design waste management systems (new or improvement to existing facilities).
 - Collaborate in the construction of demonstration facilities.

2. Brief description of the target audience

Extension professionals, government personnel (professional), professionals from the private sector, and farmers.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	4100	1000	0	0
2008	960	22	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	1	0	
2008	0	2	2

V(F). State Defined Outputs

Output Target

Output #1**Output Measure**

- Number of workshops and meetings offered.

Year	Target	Actual
2008	5	179

Output #2**Output Measure**

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

Year	Target	Actual
2008	25	91

Output #3**Output Measure**

- Number of clients that participated in the workshop on structures.

Year	Target	Actual
2008	50	451

Output #4**Output Measure**

- Number of clients that participated in workshop on waste management systems.

Year	Target	Actual
2008	200	357

Output #5**Output Measure**

- Number of waste management systems designed.

Year	Target	Actual
2008	50	98

Output #6**Output Measure**

- Number of clients that participated in workshop on drainage or irrigation systems.

Year	Target	Actual
2008	10	207

Output #7**Output Measure**

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

Year	Target	Actual
2008	100	72

Output #8**Output Measure**

- Number of demonstration facilities established.

Year	Target	Actual
2008	2	4

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of clients that increased their knowledge about improvements to increase the efficiency of their structures (new and existing) and compliance with regulations.
2	Number of clients that increased their knowledge about appropriate systems for waste management in their projects.
3	Number of clients that increased their knowledge about drainage or irrigation facilities.
4	Number of clients that adopted one or more of the recommended practices to increase the efficiency of their structures and comply with all permits.
5	Number of clients that adopted one or more practices to improve their drainage or irrigation facilities.
6	Number of farmers that improved their structures (new or existing) and/or comply with permits.
7	Number of waste management systems improved (new or existing).
8	Number of drainage or irrigation facilities improved.
9	Number of farmers that increased their production as a result of improving their structures.
10	Number of farmers that increased their production as a result of improving their waste management systems.
11	Number of farmers that increased their production as a result of improving their drainage or irrigation facilities.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	419

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers are eager to learn the new regulations and comply with them. They also want to be more efficient, mostly when it comes to reducing operational costs.

What has been done

PRAES personnel offered workshops, and visited farms and conducted demonstrations.

Results

Four hundred and nineteen (419) persons were oriented and increased their knowledge about the recommended practices. The participation in most of the activities was excellent and farmers showed enthusiasm in making improvements to their farms following the recommended practices, although these improvements require capital investment, which is not available.

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies

Outcome #2**1. Outcome Measures**

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

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	434

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers showed interest in learning the new regulations on animal waste management to comply with them and avoid fines.

What has been done

PRAES personnel conducted workshops, farm visits and demonstrations were to orient farmers on the new regulations.

Results

Most of the activities that conducted had full participation. Four hundred and thirty-four (434) farmers now have the basic knowledge about animal waste regulations and the consequences of not complying with them. They also have better knowledge of water quality issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse

Outcome #3**1. Outcome Measures**

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

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	10	142

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Due to economic hardships and the instability in the cost of fuel, many farmers have reduced their irrigation scheduling. Month-to-month survival has become more of an issue than participating in irrigation workshops to the smaller crop farmers.

What has been done

PRAES agents conducted workshops and farm visits to orient farmers on draining or irrigation.

Results

One hundred and forty-two (142) farmers increased their knowledge about drainage and irrigation through the orientation and technical assistance received.

4. Associated Knowledge Areas

KA Code	Knowledge Area
405	Drainage and Irrigation Systems and Facilities

Outcome #4**1. Outcome Measures**

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	25	108

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers express interest in learning the new regulations and comply with them. They also want to be more efficient, mostly when it comes to reducing operational costs.

What has been done

PRAES personnel conducted workshops, farm visits and demonstrations to orient farmers on the regulations and on how to reduce operational costs.

Results

One hundred and eight (108) farmers adopted one or more of the recommended practices to increase the efficiency of their structures.

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies

Outcome #5

1. Outcome Measures

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	5	37

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Some farmers made the decision of reducing their irrigation scheduling due to economic hardships and the instability in the cost of fuel. They preferred the 'not to irrigate and wait until it rains' option to reduce their operational costs.

What has been done

PRAES county agents visited the farmers to motivate them to maintain their irrigation schedules and emphasized on improving the maintenance of their systems.

Results

Thirty-seven (37) farmers adopted one or more of the recommended practices to improve their irrigation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
405	Drainage and Irrigation Systems and Facilities

Outcome #6**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	25	85

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers are very interested in practices that require a low capital investment, reduce their operating costs, and have a short payback period.

What has been done

PRAES personnel conducted workshops, farm visits and demonstrations to orient farmers about improving their new or existing structures. Farmers were advised to use the existing workforce to adopt the practices ('do it yourself'), to reduce initial costs.

Results

Although improvements require capital investment that is not readily available, 85 farmers improved their structures and/or complied with permits.

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies

Outcome #7**1. Outcome Measures**

Number of waste management systems improved (new or existing).

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	70

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers are eager to learn the new regulations on animal waste management and comply with them in order to avoid fines.

What has been done

PRAES personnel conducted workshops, farm visits and demonstrations. They often served as intermediaries between the regulatory agencies and the farmers to help them comply with the regulations and avoid being fined.

Results

Seventy (70) farmers improved their waste management systems. Many of the improved systems include the application of wastewater to land as a fertilizer, which is a byproduct recovery and a cost savings practice.

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse

Outcome #8**1. Outcome Measures**

Number of drainage or irrigation facilities improved.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	5	19

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers had reduced their irrigation scheduling. They needed to be encouraged to maintain their scheduling and improve their facilities.

What has been done

Farm visits and recommendations were based on improving existing facilities and using water more efficiently, with a minimum capital investment.

Results

Nineteen (19) farmers improved the number of drainage or irrigation facilities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
405	Drainage and Irrigation Systems and Facilities

Outcome #9**1. Outcome Measures**

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 Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	25	40

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers are eager to learn the new regulations and comply with them. They also want to be more efficient, mostly when it comes to reducing operational costs.

What has been done

Workshops, training meetings, farm visits and demonstrations were conducted.

Results

Forty (40) farmers increased their production as a result of improving their structures. These were mostly farmers who changed their management practices to keep the animals cooler inside buildings and crop farmers who invested in machinery and sheds to improve management after harvest.

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies

Outcome #10**1. Outcome Measures**

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 Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	70	57

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers are eager to learn the new regulations on animal waste management and comply with them in order to avoid fines. They also want to learn how to lower their operating costs by using wastewater for fertilizing.

What has been done

Workshops, farm visits, training meetings and demonstrations were conducted. Many of the same issues are being faced by farmers in the US Mainland, we have been in contact with colleagues in other Institutions with extension services working on common grounds and developing strategies to help our clientele.

Results

Most of the 57 clients who increased their production, as a result of adopting waste management practices, now fertilize with waste from their lagoon effluent. This practice has been well accepted as a substitute for high cost fertilizers

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse

Outcome #11**1. Outcome Measures**

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 Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2	16

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmers have been lowering operating costs due to the instability in the cost of fuel. Irrigation is an energy intensive practice that they have been reducing at a minimum.

What has been done

PRAES agents conducted farm visits and made recommendations to farmers based on improving their existing facilities and using water more efficiently, with a minimum capital investment.

Results

Sixteen (16) farmers reported that they increased their production as a result of improving their drainage or irrigation facilities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
405	Drainage and Irrigation Systems and Facilities

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges
- Other (Availability economic incentives)

Brief Explanation

Our goals of getting the clientele to participate in workshops and seminars were met; however, since improvements to existing structures and waste management systems require capital investments, the situation with the local and national economy creates uncertainties, decreases the value of money and discourages farmers from establishing the practices. In addition, many of our smaller farmers depend on economic incentives from the government. The incentives programs were reduced and money was harder to obtain. Many farmers who use irrigation, reduced their irrigation schedule because of the instability in the cost of fuel.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- Case Study

Evaluation Results

Key Items of Evaluation

Program #7

V(A). Planned Program (Summary)

1. Name of the Planned Program

Families and Children

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	100%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	9.2	0.0	0.0	0.0
Actual	10.7	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
356011	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
178005	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. •Offer advice when clientele visit the office. •Develop curriculum related to family relations, child development, human development, elder care, family resilience, and related areas. •Conduct workshops, trainings, and meetings. •Continue the collaboration with government and private agencies and institutions (Department of Family, Department of Education, Head Start, local government). •Collaboration with partners in the University of Puerto Rico and other educational institutions. •Use and implementation of curriculum, educational material, etc. •Write proposals.

2. Brief description of the target audience

Extension agents, home economists, PRAES specialists, government personnel (professionals), professionals from other agencies, parents, families, children, youth, elder people, volunteers, and general public.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	10500	15000	0	0
2008	10487	5858	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1**Output Measure**

- Number of workshops, trainings, and meetings offered.

Year	Target	Actual
2008	55	449

Output #2**Output Measure**

- Number of collaborations/established.

Year	Target	Actual
2008	260	236

Output #3**Output Measure**

- Number of persons trained in parenting and related areas.

Year	Target	Actual
2008	900	3557

Output #4**Output Measure**

- Number of volunteers/community leaders trained in family relations and related areas.

Year	Target	Actual
2008	200	480

Output #5**Output Measure**

- Number of persons trained in aging aspects.

Year	Target	Actual
2008	200	1017

Output #6**Output Measure**

- Number of persons trained in values, character traits, and/or family strengths.

Year	Target	Actual
2008	600	574

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 increased knowledge in parenting and related areas.
3	Number of volunteer/community leaders that demonstrated their adopted skills by teaching and/or training others.
4	Number of persons that gained knowledge in aging aspects.
5	Number of persons reported improved skills and increased knowledge in values and character traits.
6	Number of children and youth benefitted indirectly.
7	Number of persons that increased knowledge from educational material and resources through campaigns and other educational methodologies

Outcome #1**1. Outcome Measures**

Number of persons that reported improved parenting skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	600	2112

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #2**1. Outcome Measures**

Number of persons that increased knowledge in parenting and related areas.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	600	1324

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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Outcome #3**1. Outcome Measures**

Number of volunteer/community leaders that demonstrated their adopted skills by teaching and/or training others.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	167

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #4**1. Outcome Measures**

Number of persons that gained knowledge in aging aspects.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	1000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #5

1. Outcome Measures

Number of persons reported improved skills and increased knowledge in values and character traits.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	600	487

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #6

1. Outcome Measures

Number of children and youth benefitted indirectly.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	1232

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #7

1. Outcome Measures

Number of persons that increased knowledge from educational material and resources through campaigns and other educational methodologies

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2000	5010

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Other (External Federal Funds from Proposal)

Brief Explanation

We were granted a proposal in parenting skills and relations (CYFAR). There were more people dedicated to work with families and children at risk, therefore there was an increase in outcomes.

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

1. Evaluation Studies Planned

- Other ()

Evaluation Results

Key Items of Evaluation

Program #8

V(A). Planned Program (Summary)

1. Name of the Planned Program

Empowering and Self-management 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
803	Sociological and Technological Change Affecting Individuals, Families and Communities	50%			
805	Community Institutions, Health, and Social Services	50%			
Total		100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	23.0	0.0	0.0	0.0
Actual	25.5	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
848437	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
424218	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

- Workshops and meetings.
- Develop educational material like curriculums and modules.
- Establish community coalitions with volunteer organizations, community service organizations, institutions, and other agencies.
- Community educational campaigns.

2. Brief description of the target audience

Individuals and families in social and economic disadvantaged communities and key leaders.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1400	10000	0	0
2008	13508	16012	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1**Output Measure**

- Number of workshops in leadership development.

Year	Target	Actual
2008	35	153

Output #2**Output Measure**

- Number of leaders participating in workshops.

Year	Target	Actual
2008	350	1186

Output #3**Output Measure**

- Number of workshops on community organization and empowerment development.

Year	Target	Actual
2008	30	38

Output #4**Output Measure**

- Number of leaders participating in workshops on community organization and empowerment development.

Year	Target	Actual
2008	150	304

Output #5**Output Measure**

- Number of coalitions established in the communities.

Year	Target	Actual
2008	30	39

Output #6**Output Measure**

- Number of coalition members.

Year	Target	Actual
2008	150	131

Output #7**Output Measure**

- Number of seminars on emergency and disaster situations offered.

Year	Target	Actual
2008	30	25

Output #8**Output Measure**

- Number of leaders participating in seminars.

Year	Target	Actual
2008	150	324

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of communities organized.
2	Number of communities that took action over their necessities to improve their quality of life through empowerment and self-management.
3	Number of leaders with community and civic engagement.
4	Number of communities that took action over specific necessities.
5	Number of community projects established to benefit the community.
6	Number of leaders participating actively in the design and implementation of community projects.
7	Number of communities that developed an emergency and safety plan.
8	Number of governmental or other organizations that collaborated in the communities' organization and development.

Outcome #1**1. Outcome Measures**

Number of communities organized.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	59

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The community organizations help the people to be involved in the identification and solution of their problems.

What has been done

In the community organization the Extension Agents used diverse methods and tactics, such as: training meetings in community empowerment and participative action research, to work in it.

Results

Ninety-four (94) communities were organized and prepared their plan of work in diverse areas, such as: environment, families, values, recycling, health, and vegetable gardens, as a result of the training meetings offered and the participative action research.

4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

Outcome #2**1. Outcome Measures**

Number of communities that took action over their necessities to improve their quality of life through empowerment and self-management.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	62

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

When the community members celebrate meetings to organize them, it is important that they have empowerment and self-management to attend their situations and problems.

What has been done

Through workshops and training meetings the community leaders obtained knowledge in empowerment and self-management.

Results

Sixty-two (62) communities took action over their needs and established projects such as: recycling, land protection, environmental conservation, family values, and training in home-based business to increase their income.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #3**1. Outcome Measures**

Number of leaders with community and civic engagement.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	150	1915

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The Community Leadership Strengthening curriculum is a tool used by the Extension agent to train leaders in their communities.

What has been done

With this curriculum the leaders were trained in leadership skills, public policy, communication skills, team work, conflict and problem solving, and lead as a volunteer.

Results

There were 1915 leaders with civic engagement. Through this they developed some activities that impacted their communities, such as: recognition activities, services to the elderly and the homeless, community libraries, family strength projects, and self-management and empowerment.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #4**1. Outcome Measures**

Number of communities that took action over specific necessities.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	124

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #5**1. Outcome Measures**

Number of community projects established to benefit the community.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	102

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Once the leaders are trained to do volunteer work in their communities, it is necessary to develop a project to impact the community.

What has been done

The community leaders identify different projects, such as: recycling, vegetable gardens, land use and protection, environment and natural resources conservation, how to use a computer, family health, sewing and family values, to impact the community through meetings and participatory action research tools.

Results

One hundred and two (102) projects were developed with the participation of 951 leaders in their design and implementation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #6

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	951

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #7**1. Outcome Measures**

Number of communities that developed an emergency and safety plan.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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Outcome #8**1. Outcome Measures**

Number of governmental or other organizations that collaborated in the communities' organization and development.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Brief Explanation**V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- Before-After (before and after program)
- Case Study

Evaluation Results**Key Items of Evaluation**

Program #9

V(A). Planned Program (Summary)

1. Name of the Planned Program

Plant Protection

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
211	Insects, Mites, and Other Arthropods Affecting Plants	25%			
212	Pathogens and Nematodes Affecting Plants	20%			
213	Weeds Affecting Plants	20%			
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	5%			
216	Integrated Pest Management Systems	30%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	10.0	0.0	0.0	0.0
Actual	11.4	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
379301	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
189651	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

PRAES agents trained farmers on pests of economical importance that affect the profitability of the crop commodities. In banana and plantain growers were trained in estimation of Black Sigatoka incidence in the field. The Black Sigatoka IPM field guide prepared by the plant pathology and the starchy crops specialists was handed out to the growers in the trainings. Demonstrations about sustainable integrated disease management in plantain and banana farms were conducted by Extension agents to show the benefits of IPM. In forest health a field guide about Forest Pest Management was developed for agricultural educators and personnel of the Department of Natural and Environmental Resources about the management of key pests in nurseries and urban forests. The plant protection program, in collaboration with the USDA Forest Service, assisted forest nurseries and personnel of state agencies related to forest management and developed IPM educational materials and updated the web page with forest health information. The manual and electronic presentations were posted in the web page of the entomology specialist, <http://academic.uprm.edu/ofarill>. The webpages of the crop protection specialists were updated with new information on key pests of crops of importance, forest pests and new exotic pests. In herb production, emphasis was given to identification of key pests of culantro ("*Eryngium foetidum*") and cilantro ("*Coriandrum sativum*") and distribution of existent educational materials. The field guide about management of key pests of coriander and log leaf coriander was not developed because a proposal submitted for that purpose was not approved. Extension agents informed growers about pests of coriander and long leaf coriander and the management practices available for their control through radio programs and farm visits. The citrus commodity emphasized the evaluation of IPM practices in nurseries to control the citrus leafminer. The Citrus Crop Profile is in draft form and will be final on May 2009. This publication is a coordinated effort of the IPM specialist, the citrus commodity leader, and the fruit specialist. Seminars were developed to inform nursery managers, Extension agents and other agricultural educators about the IPM practices available.

2. Brief description of the target audience

Pesticide applicators, homeowners, landscapers, Extension agents, farmers, personnel of the Department of Environmental and Natural Resources, agronomists of the Department of Agriculture.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	6000	2500	0	0
2008	5186	5370	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	2	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1**Output Measure**

- Number of trainings offered on pesticide use and IPM program.

Year	Target	Actual
2008	100	1000

Output #2**Output Measure**

- Number of persons that completed a training program in integrated pest management in the crop commodities.

Year	Target	Actual
2008	200	3990

Output #3**Output Measure**

- Number of farmers that completed a training program on pesticide application.

Year	Target	Actual
2008	2000	1384

Output #4**Output Measure**

- Number of persons trained on commercial pesticide application.

Year	Target	Actual
2008	1400	2113

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of persons that acquired knowledge after completing a training program in integrated pest management.
2	Number of persons that adopted one or more techniques after completing an integrated pest management program.
3	Number of persons that reduced the use of pesticides after completing an integrated pest management program.
4	Number of persons that established IPM program after completing a training program.
5	Number of farmers that acquired knowledge after completing a training program in pesticide application.
6	Number of farmers that acquired knowledge after completing a training program in integrated pest management.

Outcome #1**1. Outcome Measures**

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

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	250	3829

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants

Outcome #2**1. Outcome Measures**

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	1488

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

Outcome #3**1. Outcome Measures**

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 Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	75	671

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The Puerto Rico Extension IPM program addresses high-risk pesticide use in plantain and banana and coffee, especially after the introduction of the coffee berry borer and black sigatoka: two new pests.

What has been done

In banana and plantain the Extension agents trained growers on available IPM practices and made a timeline use of pesticides. Coffee growers were trained in the importance of using cultural practices, insecticide applications and mechanical control in an integrated approach to control de insect and avoid economic losses.

Results

Banana and plantain growers obtained a 40% reduction in pesticide use after being trained by Extension agents in Black Sigatoka Integrated Management and evaluation of disease incidence in the field. About 25% of coffee growers are using pheromone traps for coffee berry borer management.

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #4**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	40	530

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In Puerto Rico the IPM Program worked mainly with two recently introduced pests: the coffee berry borer and Black Sigatoka disease in plantain and banana. These pests are detrimental in these crops.

What has been done

In banana and plantain, the Black Sigatoka IPM Project trained and delivered updated educational materials to Extension agents. The agents trained growers on BS IPM and in evaluation of disease incidence in their crops.

Results

About 50% of the plantain and banana growers manage the disease in their farms by the use of effective cultural practices and by the use of a timelined conventional fungicide spray program. The cultural practices used are removal of affected leaves or the diseased portions of the leaves, balanced fertilization and control of irrigation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #5

1. Outcome Measures

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

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1900	2216

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
213	Weeds Affecting Plants

214	Vertebrates, Mollusks, and Other Pests Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants

Outcome #6**1. Outcome Measures**

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

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	150	3829

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems
212	Pathogens and Nematodes Affecting Plants

V(H). Planned Program (External Factors)**External factors which affected outcomes**

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

Brief Explanation**V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- Before-After (before and after program)
- Case Study

Evaluation Results**Key Items of Evaluation**

Program #10

V(A). Planned Program (Summary)

1. Name of the Planned Program

Natural Resources and Environment - 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	10%			
102	Soil, Plant, Water, Nutrient Relationships	40%			
104	Protect Soil from Harmful Effects of Natural Elements	10%			
111	Conservation and Efficient Use of Water	15%			
112	Watershed Protection and Management	15%			
141	Air Resource Protection and Management	10%			
Total		100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.0	0.0	0.0
Actual	5.2	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 173014	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 86507	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Develop a curriculum on air quality in agriculture (animal waste management).
- Offer short courses and trainings on practices, laws, and regulations related to soil, water, and air.
- Develop a curriculum related to protection of watersheds.
- On-site farm visits.
- Establish demonstration projects on the recommended practices for air quality and soil conservation practices.
- Establish collaboration with government agencies (local, state and federal).
- Distribute information at agricultural fair and festivals.

2. Brief description of the target audience

Farmers (includes small family farms, large scale farm business operations), farm workers, government professionals, Extension professionals, and community residents.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	3500	2500	0	0
2008	3109	3502	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	1	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1**Output Measure**

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

Year	Target	Actual
2008	15	15

Output #2**Output Measure**

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

Year	Target	Actual
2008	150	115

Output #3**Output Measure**

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

Year	Target	Actual
2008	300	252

Output #4**Output Measure**

- Number of farmers trained on soil fertility.

Year	Target	Actual
2008	250	595

Output #5**Output Measure**

- Number of farmers trained on soil conservation practices.

Year	Target	Actual
2008	150	289

Output #6**Output Measure**

- Number of people trained on watershed protection.

Year	Target	Actual
2008	75	223

Output #7**Output Measure**

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

Year	Target	Actual
2008	250	238

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of farmers that adopted the recommended practices for air and water quality
2	Number of farmers that comply with the soil, air, and water regulations.
3	Number of farmers that adopted the fertilization practices.
4	Number of farmers that adopted one or more soil conservation practices.
5	Number of farmers that established practices for the protection of watersheds.
6	Number of persons that adopted practices to improve water resources.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	75	48

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

There are farms with contaminated areas which affect the neighborhoods and some are located near watersheds. These farms require good management practices. To deal with these problems PRAES agents oriented the farmers on air & water quality.

What has been done

The farmers were oriented on air & water quality. They also offered trainings and distributed educational material on about good management practices that help maintain air & water quality

Results

Forty-eight (48) farmers adopted the recommended practices for air & water quality of 119 oriented.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
141	Air Resource Protection and Management
111	Conservation and Efficient Use of Water

Outcome #2**1. Outcome Measures**

Number of farmers that comply with the soil, air, and water regulations.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	150	100

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Issue (Who cares and Why): (6 to 8 Lines Max)

The farmers had problems with the adoption of environmental regulations. Extension agents discussed the regulations of the PR Quality Environment Board, Environmental Protection Agency (EPA), and PR Department of Natural Resources & Environment with the farmers.

What has been done

PRAES agents offered training meetings and conferences and prepared and distributed educational material.

Results

One hundred (100) farmers comply with the regulations on air & water quality of 252 that were trained.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
141	Air Resource Protection and Management
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management

Outcome #3

1. Outcome Measures

Number of farmers that adopted the fertilization practices.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	357

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Fertilizer costs increased 200 % during last year. Extension agents and specialists offered information on alternatives to chemical fertilizers and their effective use.

What has been done

PRAES agents offered trainings and made farm visits. We coordinated with the PR Department of Agriculture the soil analysis and did the nutrient recommendations for the commodities.

Results

Three hundred fifty seven (357) farmers adopted the fertilization practices from 595 trained. More farmers are using foliar fertilizers and composting products.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
101	Appraisal of Soil Resources

Outcome #4

1. Outcome Measures

Number of farmers that adopted one or more soil conservation practices.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	130

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The erosion of our soils is causing the sedimentation of the lakes and the subsequent loss of fertility. PRAES Agents oriented the farmers on soil conservation practices to help deal with this problem.

What has been done

Farm visits, meetings with Natural Resources Conservation Service (NRCS) and farmers were conducted in order to promote conservation practices and incentives programs.

Results

One hundred thirty (130) farmers adopted the soil conservation practices of 289 trained.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
101	Appraisal of Soil Resources
104	Protect Soil from Harmful Effects of Natural Elements
112	Watershed Protection and Management

Outcome #5**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	40	68

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

There is great concern about the watersheds due to their diminished capacity to hold required water supply for home consumption, farm operation, and industrial uses. To deal with this problem PRAES agents oriented the farmers on watershed protection.

What has been done

PRAES agents coordinated efforts with Puerto Rico government agencies such as the Department of Natural Resources and Environment, the Environmental Quality Board and the Aqueduct and Sewer Authority, the also prepared and distributed educational material among the farmers.

Results

Sixty eight (68) farmers of 223 persons trained adopted practices for watershed protection that include amendments to the Waste Disposal Plan and better fertilization management.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
104	Protect Soil from Harmful Effects of Natural Elements

Outcome #6**1. Outcome Measures**

Number of persons that adopted practices to improve water resources.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	70

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The land suitable for agricultural purposes is being used for the building of new housing projects and the construction of roads. There are not enough water reservoirs to supply water for both agriculture and human consumption. PARES agents offered orientations on the conservation and efficient use of the water resources.

What has been done

PRAES agents offered training meetings and conferences to farmers and general public.

Results

Seventy (70) persons adopted practices to improve water resources of 238 oriented.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Government Regulations
- Other (change in agency administration and community leaders)

Brief Explanation

There was a decrease in farm operations due to fewer incentives from the Department of Agriculture and an increase in fertilizer and pest control prices. There are more regulations that require capital investment to keep the business operating and the farmers did not have the money to do all the practices.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- Before-After (before and after program)
- Case Study

Evaluation Results

Key Items of Evaluation

Program #11

V(A). Planned Program (Summary)

1. Name of the Planned Program

Healthy: No matter what my size or income

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	80%			
704	Nutrition and Hunger in the Population	20%			
Total		100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	9.2	0.0	0.0	0.0
Actual	11.4	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
379301	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
189651	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

•Train the home economists regarding basic attitudes, assumptions, and motivations. •Train the home economists in adult teaching methodology so that people decide to make changes. •Initial evaluation before the beginning of the course, of what the people expect from the course/activity. •Courses based on learning tasks. •Exhibits/Community activities which emphasize the new focus on "health, no matter what my size or income".

2. Brief description of the target audience

Extension professionals, parents, the person that plans/buys/prepares food for the family, low-income families.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	10000	8000	4000	1500
2008	9946	7010	9448	1005

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	1	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of persons that completed the short course.

Year	Target	Actual
2008	1000	4059

Output #2

Output Measure

- Number of volunteers that use the curriculum for a course or project.

Year	Target	Actual
2008	25	9

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of people who recognize that they are attractive, no matter what they weigh.
2	Number of people who recognize that they can prepare a meal for their family or for themselves.
3	Number of people who recognize that they can make choices that are more nutritious when they eat out.
4	Number of people who developed the attitude that "It is possible to feed my family with the money that is available."
5	Number of people who can compliment a person without referring to their size.
6	Number of people who increased the consumption of whole grains.
7	Number of people who increased the consumption of fruits.
8	Number of people who increased the consumption of vegetables.
9	Number of people who decreased the consumption of beverages that are basically sugar and water.
10	Number of people who consume milk with their meals.
11	Number of people who consume oils, nuts or avocados frequently.
12	Number of people that grow food for their own use in gardens or flower pots.
13	Number of people who use fruit that grows in their backyard.
14	Number of people who prepare meals for the people living in their household.
15	Number of people who prepare one-dish meals.
16	Number of people who select lower cost alternative foods of the same or increased nutritional value.
17	Number of people who make a shopping list.
18	Number of people who make use of food specials.
19	Number of people who are proud that they can prepare delicious low cost meals.
20	Number of people who plan their meals based on rice and beans or pasta, with one to two ounces of meat or meat substitute per person.
21	Number of people who now use herbs and condiments to enhance the flavor and appeal of foods.
22	Number of people who now eat according to the recommendations of the Food Guide Pyramid for Puerto Rico.
23	Number of people who now have enough food to feed their family the entire month.

Outcome #1**1. Outcome Measures**

Number of people who recognize that they are attractive, no matter what they weigh.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	1256

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #2**1. Outcome Measures**

Number of people who recognize that they can prepare a meal for their family or for themselves.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	1351

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Food is expensive; many people on the island have limited incomes, but also have limited time. Food preparation is not taught in the schools and many young mothers have not learned these skills at home.

What has been done

In FY 2008, 4,059 people completed a short course in nutrition, healthy weight, food preparation and/or food security. A short course consists of 4 to 6 meetings in which the group identifies the areas of most interest.

Results

In FY 2008, 1,351 people recognized that they can prepare a meal for their family, 1,495 prepared meals for the people who live with them, 796 prepared one-dish meals, 724 prepared meals based on rice and beans with 1-2 ounces of meat, and 775 selected local food products for their meal preparation.

The Home Economist Rosa M. Torres-Ortiz of Salinas, Puerto Rico, reported that she had 20 participants in her course 'Improving Family Meals'. Of these, 15 reported that they had increased vegetable consumption; 17, fruit consumption; and 15 used less fat in their food preparation by using recipes learned in the class. Based on their appreciation of what they had learned, two months after the course several of the course graduates organized a competition of low-fat recipes in their community, and, in this way taught others what they had learned.

4. Associated Knowledge Areas

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population
703	Nutrition Education and Behavior

Outcome #3

1. Outcome Measures

Number of people who recognize that they can make choices that are more nutritious when they eat out.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	400	2434

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #4

1. Outcome Measures

Number of people who developed the attitude that "It is possible to feed my family with the money that is available."

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	780

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

Outcome #5**1. Outcome Measures**

Number of people who can compliment a person without referring to their size.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	1222

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #6**1. Outcome Measures**

Number of people who increased the consumption of whole grains.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	1671

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Whole grains are sources of nutrients, such as magnesium, manganese and selenium that are difficult to come across in the food supply, if foods in this category are not consumed regularly. We concentrate on the use of oatmeal and whole grains due to the difficulty of recognizing other whole grains from labels, and the long history of the use of rice and oats in Puerto Rico.

What has been done

In FY 1008, 4,059 people completed a short course (4 to 6 meetings in which the group identify the areas of most interest) in nutrition, healthy weight, food preparation and/or food security.

Results

1,671 people increased their consumption of whole grains (oats and brown rice).

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #7**1. Outcome Measures**

Number of people who increased the consumption of fruits.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	250	1464

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #8**1. Outcome Measures**

Number of people who increased the consumption of vegetables.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	250	1169

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #9**1. Outcome Measures**

Number of people who decreased the consumption of beverages that are basically sugar and water.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	350	2007

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #10**1. Outcome Measures**

Number of people who consume milk with their meals.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	1988

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Milk provides the body with many nutrients, particularly protein, calcium, riboflavin, pantothenic acid, and vitamin D. These nutrients are not found in soft drinks, which have replaced milk as the beverage of choice at mealtime for many families.

What has been done

The 'Complete your Meal with Milk' campaign began in FY 2007.

Results

In Ceiba, Puerto Rico, the home economist Jean I. Hernandez-Rivera reported that 21 children were enrolled in the Little Chefs program. One 6 year-old child made for her family the milk and quesadillas recipe that she had learned in the course. She informed the group about this, and expressed her enthusiasm about her family consuming more milk because of what she had learned. After her report, three more children were motivated to practice the recipes in their homes.

In Guaynabo Carmen I Roman taught a 4-session course on 'Complete your Meal with Milk' to Senior Citizens living in the Luis Munoz Marin Housing Project for the Elderly. One of the participants commented that at 65 years of age she had developed new skills to prepare her meals and that she would continue to use the milk recipes she had practiced in the class. Some of the participants began to meet in their apartments to invent recipes that are nutritious and fast and easy to prepare. Another commented that she had not wanted to participate in the workshops, however now she was delighted with all that she had learned and how she had improved her quality of life.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #11**1. Outcome Measures**

Number of people who consume oils, nuts or avocados frequently.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	1472

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #12**1. Outcome Measures**

Number of people that grow food for their own use in gardens or flower pots.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	354

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population

Outcome #13**1. Outcome Measures**

Number of people who use fruit that grows in their backyard.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	421

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population

Outcome #14**1. Outcome Measures**

Number of people who prepare meals for the people living in their household.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	1495

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population
703	Nutrition Education and Behavior

Outcome #15

1. Outcome Measures

Number of people who prepare one-dish meals.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	225	796

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population
703	Nutrition Education and Behavior

Outcome #16**1. Outcome Measures**

Number of people who select lower cost alternative foods of the same or increased nutritional value.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	225	1512

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

Outcome #17**1. Outcome Measures**

Number of people who make a shopping list.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	225	789

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

Outcome #18**1. Outcome Measures**

Number of people who make use of food specials.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	225	855

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

Outcome #19**1. Outcome Measures**

Number of people who are proud that they can prepare delicious low cost meals.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	696

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

Outcome #20**1. Outcome Measures**

Number of people who plan their meals based on rice and beans or pasta, with one to two ounces of meat or meat substitute per person.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	724

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)**What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population
703	Nutrition Education and Behavior

Outcome #21**1. Outcome Measures**

Number of people who now use herbs and condiments to enhance the flavor and appeal of foods.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	897

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #22**1. Outcome Measures**

Number of people who now eat according to the recommendations of the Food Guide Pyramid for Puerto Rico.

Not reporting on this Outcome for this Annual Report

Outcome #23**1. Outcome Measures**

Number of people who now have enough food to feed their family the entire month.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	633

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Economy

Brief Explanation

Changes in the economy have brought changes in people's diets. The high cost of foods has forced people to be more conscious of what they eat and how much. People are eating out less and making more home cooked meals. They are also looking more to PRAES and other educational agencies for alternatives of low budget foods that are also nutritious and are more motivated to follow the recommendations offered. Some are even looking to home gardening as an alternative to provide their families with fresh food products.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- During (during program)

Evaluation Results

A series of structured interviews as part of a process evaluation, using open-ended questions were conducted with seven home economists of one of the Puerto Rico Agriculture Extension Service regions. These interviews included the use of the indicators developed for the area of Healthy: no Matter What my Size or Income.

Based on the information received, it was found that the current method of planning results in teaching according to the plan, which is not necessarily what the people need. Therefore, it has been recommended that a general planning indicator be made and then other more specific indicators for change at the state level that will be informed according to what occurs during the educational courses. These will also provide more detailed data about changes in the participants that will be used to write an impact statement. Indicators of change will be constructed based on the Interpretative Model of Change (Contents, 2007). This will help the home economists to inform if changes were achieved in the area of attitudes (contemplation/ pre-contemplation) or behavior change (plans to change, and actual changes) as well as the more specific areas in which these changes were achieved.

Contento, I. R. (2007). Nutrition Education: Linking Research, Theory and Practice. Jones and Bartlett.

Key Items of Evaluation

A process evaluation was conducted to assess how home economists are delivering the educational material and reporting outcome data.

Program #12

V(A). Planned Program (Summary)

1. Name of the Planned Program

Management of Rangeland and Forestry 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
121	Management of Range Resources	40%			
122	Management and Control of Forest and Range Fires	5%			
123	Management and Sustainability of Forest Resources	20%			
124	Urban Forestry	30%			
133	Pollution Prevention and Mitigation	5%			
Total		100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	0.0	0.0
Actual	3.8	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
126434	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
63217	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

- Conduct workshops and meetings. •Collaborate with government agencies (DNRA, USDA-NRCS and others).
- Collaborate with our partners in the University of Puerto Rico and other educational institutions. •Conference/training related to range management. •Conference/training related to urban forestry. •Participate in radio programs. •Offer advice when clientele visit the office. •Conduct a campaign on the prevention of forest fires.

2. Brief description of the target audience

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

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	2500	3500	400	200
2008	5371	7368	1997	350

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	1	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1**Output Measure**

- Number of farmers trained in range management.

Year	Target	Actual
2008	300	181

Output #2**Output Measure**

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

Year	Target	Actual
2008	400	1761

Output #3**Output Measure**

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

Year	Target	Actual
2008	100	413

Output #4**Output Measure**

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

Year	Target	Actual
2008	250	391

Output #5**Output Measure**

- Number of agency collaborations established.

Year	Target	Actual
2008	5	39

Output #6**Output Measure**

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

Year	Target	Actual
2008	400	723

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.

Outcome #1**1. Outcome Measures**

Number of farmers that improved their pastures.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	120	63

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

High costs of ingredients of feeds for livestock have driven farmers to adopt better management practices to improve their pastures to minimize the use of livestock feeds. The Puerto Rico Agricultural Extension Services (PRAES) and Natural Resources Conservation Service (NRCS-USDA) joined efforts to help farmers to improve their pastures.

What has been done

Several workshops, site demonstration and farm visits were made to promote the use of better management practices (BMP's). The implementation of BMP's on their farms helps to improve their pastures and increase production.

Results

Sixty-three (63) farmers improved their pastures as a result of implementing BMP's in their farms. After participation in site demonstration the farmers adopted management practices and improved their pastures minimizing the use of fertilizers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources

Outcome #2**1. Outcome Measures**

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	200	507

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 and rivers.

What has been done

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

Results

507 persons 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, and communities, and schools.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
124	Urban Forestry

Outcome #3

1. Outcome Measures

Number of reforestation projects established.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	26

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Our watersheds and forests are being deforested sometimes for agricultural, city or housing development increasing the sedimentation of rivers and streams. As a result, flash floods and overflowing of rivers and streams are frequent during the rainy season.

What has been done

Joint efforts with government agencies (Department of Natural Resources and Environment, ARPE, the Natural Resources Conservation Service and the Puerto Rico Agricultural Extension Service), non government agencies, the community and schools to promote and develop reforestation projects to enhance the natural environments around communities. Reforestation projects help and contribute to minimize the impact of soil and water erosion in our lands. The establishment of tree nurseries by the DNRA is part of the efforts made to produce tree seedlings of native trees for reforestation projects.

Results

Twenty-six (26) reforestation projects were established as a result of the reforestation program established. These projects should help to reduce soil erosion and sedimentation of our watersheds and rivers and to conserve endangered native trees and habitats for wildlife species.

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry

Outcome #4

1. Outcome Measures

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	40	83

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

During the dry season fire combustion on forests, pastures, and rangelands affect farmers and endangered communities on the southern part of the island. These fires destroy rangelands and forests and pollute the air of the communities near the affected areas.

What has been done

Educational activities involving community leaders, farmers and students at their schools were made to create awareness about fire prevention. Several exhibitions, circular letters, TV and radio programs were prepared to expose the people of the dangers of fires.

Results

Eighty-three (83) persons adopted fire prevention practices in forests and rangelands. PRAES specialist developed fire prevention material for children, youth and farmers. Radio programs were broadcast to create awareness and knowledge to encourage the adoption of practices on fire prevention in forests and rangelands.

4. Associated Knowledge Areas

KA Code	Knowledge Area
122	Management and Control of Forest and Range Fires

Outcome #5**1. Outcome Measures**

Number of farmers that adopted the recommended range management practices.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	160	81

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Range farmers need to adopt range management practices on their lands and farms to reduce farm costs and maintain economic sustainability. Implementation of better and more efficient practices will help them to achieve higher production and increase their profits.

What has been done

PRAES range specialist and extension agents prepared several educational and demonstration activities to encourage the adoption of range management practices. Several farm demonstrations at the Isabela and Corozal Experimental Stations were made to show farmers the recommended practices.

Results

Eighty-one (81) farmers adopted the recommended range management practices, reducing farm costs and increasing profitability.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources

Outcome #6

1. Outcome Measures

Number of acres in improved pastures.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1500	403

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The reduction of lands available for pasture culture, higher costs of labor and fertilizers have made necessary the use and adoption of improved pasture varieties.

What has been done

PRAES developed educational activities to promote better management practices and varieties developed by the Agricultural Experiment Station to improve pastures to reduce costs and increase production and profits.

Results

As a result of the educational activities 403 acres of pastures were improved.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources
123	Management and Sustainability of Forest Resources

Outcome #7

1. Outcome Measures

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	125	228

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Puerto Rico has a high rate of erosion, we are losing available land suitable for agriculture and forest lands affecting our watersheds and rivers. The adoption of management practices in farming operations contributes to control soil, water and air pollution and contribute to the conservation of our natural resources. Farmers implementing the recommended practices reduce the use of inorganic fertilizers and pesticides decreasing soil and water pollution of our aquifers.

What has been done

Several educational activities were made during the XII Caribbean Urban and Community Forestry Meeting, Global Climate Change, Health and Economy workshop. TV and radio programs were broadcast to create consciousness of global climate change and management mitigation practices of natural resources.

Results

Two hundred twenty-eight (228) persons adopted practices for pollution prevention and mitigation of natural resources.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

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
- Other (Availability economic incentives)

Brief Explanation

Puerto Rico is affected by an economic recession that has increased all farm costs. Farmers are changing their priorities to lower costs and minimize the economic impact.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- Before-After (before and after program)
- Case Study

Evaluation Results**Key Items of Evaluation**

Program #13

V(A). Planned Program (Summary)

1. Name of the Planned Program

Animal Protection

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
311	Animal Diseases	40%			
312	External Parasites and Pests of Animals	25%			
313	Internal Parasites in Animals	25%			
315	Animal Welfare/Well-Being and Protection	10%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	7.0	0.0	0.0	0.0
Actual	8.7	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
289467	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
144733	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

- Trainings
- Workshops and meetings
- Participate in radio programs
- Establish collaborations with local government and federal agencies
- Collaborate with our partners in the University of Puerto Rico system and other educational institutions

2. Brief description of the target audience

- Agricultural producers •Extension professionals •Government personnel •Community leaders
- Professionals from the private sector

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	2600	2200	0	0
2008	2045	639	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	1	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1**Output Measure**

- Number of persons trained in control and prevention of diseases.

Year	Target	Actual
2008	200	573

Output #2**Output Measure**

- Number of persons trained in bio-security program.

Year	Target	Actual
2008	250	125

Output #3**Output Measure**

- Number of persons trained in control and prevention of internal and external parasites.

Year	Target	Actual
2008	200	418

Output #4**Output Measure**

- Number of persons trained in animal welfare and protection.

Year	Target	Actual
2008	50	200

Output #5**Output Measure**

- Number of collaborations established.

Year	Target	Actual
2008	22	396

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.

Outcome #1**1. Outcome Measures**

Number of persons that adopted disease control and prevention practices.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	150	432

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Recent regulations implemented for food safety have changed the traditional practices in dealing with animal diseases. Farmers have to establish preventive measures in the facilities, they have to monitor what is entering their facilities from outside to protect themselves from any unwanted disease.

What has been done

PRAES personnel offered workshops and promoted orientation on recordkeeping, vaccination programs, prepared and distributed circular letters and promoted good management practices to help farmers deal with disease control and prevention on their farms.

Results

Four hundred and thirty-two (432) persons adopted the disease control and prevention practices recommended to keep their animals disease free and improve production and income.

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases
312	External Parasites and Pests of Animals
313	Internal Parasites in Animals

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	250	322

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The farmers lacked an effective program to deal with farm animal diseases. Few prevention and control practices followed to reduce the incidence of disease in their animals.

What has been done

PRAES personnel promoted the identification of disease in farm animals and individual recordkeeping for large animals or herd or flock records for small animals. These help in effectively treating the animals and culling the non productive ones. Support from Puerto Rico Department of Agriculture's Veterinary Division was received in this initiative.

Results

A total of 322 persons have benefited from this educational initiative of the PRAES and local veterinary services.

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases
315	Animal Welfare/Well-Being and Protection

Outcome #3**1. Outcome Measures**

Number of persons that adopted a bio-security program.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	150	97

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The use of good production practices by farmers requires changes in the way they manage their operations. To guarantee the quality and uniformity in production new controls had to be established in the farm premises.

What has been done

PRAES personnel conducted workshops and trainings and prepared and distributed circular letters where the offered recommended production practices on bio-security measures on farm premises. Educational efforts were a joint collaboration of PRAES and USDA personnel.

Results

Ninety-seven (97) persons gained knowledge on the importance of controlling the movement of animals, persons, and equipment on their premises.

4. Associated Knowledge Areas

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection
311	Animal Diseases

Outcome #4**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	168

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Global change, good production practices and regulations protecting the animal rights have contributed to changes in the production and management practices against farm animals in confinement. Farmers needed to be oriented about how to improve the welfare and protection of their farm animals to comply with regulations and increase production.

What has been done

PRAES personnel brought information about regulations governing animal under confinement through visits to farmers in their area. Their orientation to farmers emphasized on the importance of adopting good management practices regarding cleanliness, sanitation, ventilation, feed quality and floor space.

Results

One hundred sixty-eight (168) persons benefited from the information received through Extension personnel and adopted one or more of the recommended practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection

Outcome #5**1. Outcome Measures**

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	150	259

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Many farmers lack a parasite control program. The two common parasites (external and the internal) cause income losses to farmers. They use the animal as host to live on and reproduce, and use up the animals physical resources affecting their health and productivity. Farmers had to be oriented on how to keep their animals healthy and free of pests and parasites. Healthy well-fed animals are in a better position to compete with imports due to the quality of their meat or their production.

What has been done

PRAES agents disseminated information regarding the importance of keeping the animals healthy and free of parasites. They also emphasized on the importance of maintaining the farm facilities clean, having all animals identified, and how to make sure that new animals entering the farm are in good health.

Results

Two hundred and fifty-nine (259) persons benefited from the educational information and training received from PRAES personnel and adopted the recommended parasite control practices on their farm.

4. Associated Knowledge Areas

KA Code	Knowledge Area
313	Internal Parasites in Animals
312	External Parasites and Pests of Animals

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

Brief Explanation

Puerto Rico's location in the Caribbean, which puts it in the path of hurricanes with high winds and intensive rains, and seasons of heavy rains and/or severe droughts affect the agricultural production.

The global partners and commercial agreements have changed regulations between countries about commodities exports. The animal commodities produced locally are consumed mainly on the Island. Some products are exported, but the amount is not significant. The local producers are working to take additional measures to improve product quality. Additional efforts should be made in promoting bio-security measures among farmers.

Displaced workforce from the industrial sector has looked for other ways to generate their income. They are looking at the agriculture sector as a new way of living. This movement demands new resources from the agricultural sector. The presence of new persons in the agricultural sector has changed the projected outcomes, which are higher than projected, except for bio-security measures.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- Before-After (before and after program)
- Case Study

Evaluation Results**Key Items of Evaluation**

Program #14**V(A). Planned Program (Summary)****1. Name of the Planned Program**

Community Resources Planning and Development

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	100%			
	Total	100%			

V(C). Planned Program (Inputs)**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	11.5	0.0	0.0	0.0
Actual	5.5	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
182996	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
91498	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**

During 2008 the Community Resources and Planning knowledge area experienced a total reengineering, developing a new set of non-formal educational methodology known as the *Community Based Entrepreneurial Tool Box*. Thus, moving away from training and capacity building activities from specific jobs and craft training to that of developing the entrepreneurial skills of the participants to fully take advantage of the skills, dexterities, talents and service and production capacities already known to the participants.

New emphasis on individual counseling has been put in place, in order to be able to follow-up participants who have completed the Entrepreneurial Tool Box series. In this way, guiding them in the process of applying the learned skills and supporting them in the process of transforming their personal and community life.

During this year we also established an Agreement of Collaboration with the Socioeconomic Community Development program of the Office of "Special" Communities" (the Commonwealth of Puerto Rico office for community development) to synchronize and coordinate efforts in developing and promoting emblematic community based economic initiatives.

2. Brief description of the target audience

During 2008 our efforts were centered in developing a train-the-trainers approach. Extension professionals were trained in the Entrepreneurial Tool Box Series, so they could impart this new vision of socioeconomic development to community leaders who will then train farmers and other community participants.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	525	10500	0	0
2008	1110	381	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of persons trained in community-based business.

Year	Target	Actual
2008	75	163

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.

Outcome #1**1. Outcome Measures**

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	25	93

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Official unemployment figures in Villalba, a mountain range town in Puerto Rico, is around 65%. During the 1950s and 1960's this town used to be a needle industry Mecca; however, with the flight of most labor intensive industries, federal government transfer funds have become the mayor source of family income. Project 'Manos Villalbe' as: 'Cosiendo por Nuestro Futuro' (i.e., Villalba's hands: Sewing for our future) has trained 45 low-income women in the dexterity of garment design and production. Of these, 15 have been trained in entrepreneurial skills and are already putting into practice budgeting, marketing, administration and business planning skills into practice in order to design and establish a community based venture that would improve the life opportunities of this group of talented and courageous women and their families.

What has been done

During 2008 most of the participants accounted in this section worked in the process of acquiring the necessary accreditations, permits and certifications to start their economic initiatives. A lesser group worked in the application of specific entrepreneurial practices such as market, inventory, human resources and marketing analysis. With the introduction of the Community Based Entrepreneurial Tool Box at the end of 2008, we expect to report more entrepreneurial and less bureaucratic practices being applied by our participants.

Results

Six participants used their acquired grant writing skills by developing and submitting grants proposals to several granting institutions such as the Office of 'Special' Communities' of the Commonwealth of Puerto Rico, the Puerto Rico Department of Agriculture, USDA, Puerto Rico Bank of Development, etc. Several applied diverse entrepreneurial skills and practices that allowed them to advance their business plans. Forty-three (43) participants were either certified or accredited as trained practitioners in the areas of craftsmanship, food production and jewelry and apparel confection.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #2**1. Outcome Measures**

Number of community-based businesses established.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	5	14

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Lack of opportunities have accounted as the main reason for the high levels of unemployment in Puerto Rico. Accordingly, our efforts focus on the creation of self-employment opportunities through the establishment of community based economic initiatives. An example of this is the municipality of Las Piedras. In this town that is losing a considerable amount of its agricultural lands to urban construction and is stricken with extremely high unemployment figure, a new cooperative of farmers 'Agricultores Unidos de Las Piedras' (i.e., United Farmers of Las Piedras) was established with the support of RAES Agricultural Agent, Aida Maldonado, and were awarded a grant of \$224,000 by the USDA and the P.R. Department of Agriculture. In this way, several families of formerly unemployed farmers were able to promote their way of life and protect valuable acres of prime agricultural land in Puerto Rico.

What has been done

Participants were assisted in the process of designing and establishing their family, community and collective enterprises, as well as in the process of writing and getting approved grant proposals. Regulatory and operational permits were secured with the assistance of extension personnel. Extension personnel also assisted in the process of providing counseling and orientation, as well as assistance in the process of incorporating the family, community and collective enterprises as required by the government in Puerto Rico.

Results

Four family and community based micro enterprises of 'sofrito' (i.e., food seasoning); one commercial photography business that employs six photographers; one micro enterprise of baking goods; two craftsmanship enterprises; one family based shop for the production and selling of baby garment and footwear; two cafeterias; two domestic services initiative; and one cooperative of agricultural services were established.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Public Policy changes

Brief Explanation

With the election of a new administration in Puerto Rico during 2008, some partnership initiatives with our government collaborators and stakeholders came to a halt. Due to the idiosyncrasies of the Puerto Rican political system, transitions in administration are not smooth as in other places, but fundamental, with an automatic discontinuation of initiatives and plans of work until the establishment of the new administrative staff and its new plan of work. This has a considerable effect on the collaborative work with personnel of the Office of Special Communités, who are "grounded" past the elections to office work until new directives are made by the entering administration.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- During (during program)

Evaluation Results

The Community Resources and Planning knowledge area designed and administered a questionnaire to help in the documentation and cross-validation of quantitative data using qualitative analysis. This helped us establish a process evaluation methodology to turn raw data into a sociological context, and allowed us to purify such data that was arriving from the field. In addition, some areas were identified as needing retraining of our personnel to continue improveingn our program.

Key Items of Evaluation

Program #15

V(A). Planned Program (Summary)

1. Name of the Planned Program

Economics, Marketing and Policy

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	40%			
602	Business Management, Finance, and Taxation	30%			
604	Marketing and Distribution Practices	20%			
610	Domestic Policy Analysis	10%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	0.0	0.0	0.0
Actual	3.6	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
119779	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
59890	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

•Farm visits •Trainings •Seminars •Meetings •Educational material (publications, newsletters, CD)

2. Brief description of the target audience

Farmers, agricultural entrepreneurs, Extension professionals.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	300	600	0	0
2008	3504	1752	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	2	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of trainings, courses and seminars offered.

Year	Target	Actual
2008	15	30

Output #2

Output Measure

- Number of farmers and agricultural entrepreneurs trained.

Year	Target	Actual
2008	225	450

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number of farmers and agricultural entrepreneurs that adopted one or more economic practices.
2	Number of farmers and agricultural entrepreneurs that utilize economic tools to take effective economic decisions to improve their business.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	55	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices
602	Business Management, Finance, and Taxation
610	Domestic Policy Analysis
601	Economics of Agricultural Production and Farm Management

Outcome #2**1. Outcome Measures**

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	15	45

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
610	Domestic Policy Analysis
604	Marketing and Distribution Practices

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

Brief Explanation

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

1. Evaluation Studies Planned

- During (during program)
- Case Study

Evaluation Results

Key Items of Evaluation

Program #16

V(A). Planned Program (Summary)

1. Name of the Planned Program

Animal Production

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	15%			
302	Nutrient Utilization in Animals	20%			
303	Genetic Improvement of Animals	10%			
305	Animal Physiological Processes	10%			
306	Environmental Stress in Animals	10%			
307	Animal Management Systems	20%			
308	Improved Animal Products (Before Harvest)	15%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	14.0	0.0	0.0	0.0
Actual	12.3	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
409246	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
204623	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

- Conduct seminars, meetings and workshops.
- Establish collaborations with other local and federal agencies and other University partners on research and extension programs.
- Work in collaboration with the communications media.
- Write and submit extension and research proposals.

2. Brief description of the target audience

Farmers, Extension professionals, government personnel, and private professionals.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	3200	4500	0	0
2008	6768	6271	0	0

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

Patent Applications Submitted

Year Target

Plan: 0

2008 : 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	1	0	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of farmers trained on animal production.

Year	Target	Actual
2008	300	800

Output #2

Output Measure

- Number of farmers trained on control of environmental stress on animals.

Year	Target	Actual
2008	100	300

Output #3

Output Measure

- Number of farmers trained on animal products.

Year	Target	Actual
2008	60	200

Output #4

Output Measure

- Number of collaborations established.

Year	Target	Actual
2008	45	125

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of persons that improved efficiency of animal production.
2	Number of persons that adopted one or more practices to control heat stress.
3	Number of persons that improved the quality of their product.
4	Numbers of persons that improved the animal reproduction practices.
5	Number of persons that improved the nutrient utilization practices in animals.
6	Number of persons that increased animal production after adopting the recommended practices.

Outcome #1**1. Outcome Measures**

Number of persons that improved efficiency of animal production.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	160	166

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
306	Environmental Stress in Animals
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
305	Animal Physiological Processes

Outcome #2**1. Outcome Measures**

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

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
306	Environmental Stress in Animals
305	Animal Physiological Processes
307	Animal Management Systems

Outcome #3**1. Outcome Measures**

Number of persons that improved the quality of their product.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	40	225

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
305	Animal Physiological Processes
307	Animal Management Systems
306	Environmental Stress in Animals
301	Reproductive Performance of Animals
308	Improved Animal Products (Before Harvest)
302	Nutrient Utilization in Animals

Outcome #4**1. Outcome Measures**

Numbers of persons that improved the animal reproduction practices.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	60	200

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
305	Animal Physiological Processes
301	Reproductive Performance of Animals
307	Animal Management Systems
306	Environmental Stress in Animals

Outcome #5**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	90	250

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
306	Environmental Stress in Animals
308	Improved Animal Products (Before Harvest)
307	Animal Management Systems
302	Nutrient Utilization in Animals
305	Animal Physiological Processes

Outcome #6**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	125	189

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
305	Animal Physiological Processes
306	Environmental Stress in Animals
308	Improved Animal Products (Before Harvest)
302	Nutrient Utilization in Animals
301	Reproductive Performance of Animals
307	Animal Management Systems

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
- Other ()

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- During (during program)

Evaluation Results

Key Items of Evaluation