

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Integrated Natural Resources, Renewable Energy, and Climate Change

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
104	Protect Soil from Harmful Effects of Natural Elements		10%		
111	Conservation and Efficient Use of Water		10%		
112	Watershed Protection and Management		10%		
123	Management and Sustainability of Forest Resources		15%		
125	Agroforestry		10%		
131	Alternative Uses of Land		10%		
132	Weather and Climate		15%		
133	Pollution Prevention and Mitigation		10%		
141	Air Resource Protection and Management		10%		
	Total		100%		

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	2.0	0.0	0.0
Actual Paid Professional	0.0	1.7	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	107041	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	99784	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	9317	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The program activities involved the Annual Forestry Camps, Annual Water Festival and Water Quality education program which also involved private well testing/wellhead protection, small acreage water resource management, and environmental protection. Other activities included workshops on farm eco-systems management for small-scale producers, home energy education and energy audits and climate change.

Extension agents in conjunction with the NRCS and Alabama Forestry Commission were able to assist landowners and hunting groups with information relative to improving and enhancing wildlife habitat through educational one-on-one visit to assist with information on the following: wildlife management, food plot information and prescribe burns, soil testing, soil preparation and seed selection food plots. Landowners and hunting groups received timely information and recommendations through one-on-one visits and group visits in the following: soil testing, location of wildlife and plots, soil preparation and seed selection for food plots. There was a noticeable improvement in wildlife habitation as a result of implementing these suggestions. Thirty-four percent of clients that requested information and was assisted in one-on-one visit indicated an increase in monetary value of overall hunting leases

A Water Quality Educational Meeting was held in the Wilcox County area to inform landowners and homeowners of the importance of water quality. There were approximately thirty people in attendance at the half-day meeting. Those in attendance received needed educational information on Watershed and Our Waters, Water Pollution in Rural Watersheds, Sources and Effects of Physical, Chemical and Biological Contaminants, Water Testing, Monitoring Resources and Action, Possible Cost Share Programs to Enhance Water Quality and a group style discussion on Rural Water Quality Concerns.

TUCEP also provided youth and adults in the Lowndes and Wilcox County area with educational programs on land use planning and natural resource management to help increase their knowledge and awareness in land issues. Some of the program components included:

Managing Nuisance Wildlife Control; where one-on-one visits were made to ten landowners to provide information on how to control Wild Hogs, Beavers, and Coyotes. Other aspects of the program were Tree Identification, Youth educational meeting, and land use planning meetings.

TUCEP also partnered with Alabama Forestry Commission, the Alabama Cooperative Extension System and Federation of Southern Cooperatives to hold the annual Alabama Forestry Camp targeting underserved high school students. The week-long camp presents students with various educational activities intended to increase their knowledge and skills in the areas of Tree Identification, Wildlife Management, and Forest Measurements. Students also participate in various group competitions, forestry tours, and industry tours which expose them to career opportunities in the field as well as team work and increased self confidence. The time spent with forestry professionals as well as vocational and four year college representatives always serve as a strong motivation for these youth to pursue college degrees,

and to make better career choices.

2. Brief description of the target audience

The target audience consist of youths and adults, rural and urban agriculture clientele with needs in the areas of natural resources, water quality and environmental management, including environmental health and justice issues, as well as issues in climate change and sustainable energy.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1000	1500	500	520

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

Patent Applications Submitted

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Underserved Black Belt area grade school students will be exposed to specific age appropriate educational activities designed to reinforce current classroom instructional curriculums. While targeting the youth, parents, volunteers and community leaders will also be provided necessary instructions in responsible environmental stewardship practices and principles, including information on climate change and sustainable energy.

Year	Actual
2011	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Youth participants will acquire knowledge, skills and awareness regarding well head protection, point/non-point source pollution, environmental stewardship, management of natural resources and water conservation,as well as climate change and sustainable energy. Adult participants will incorporate skills/knowledge and change behavior related to: pollution prevention, management of water resources, litter disposal and waste management, conservation and recycling of natural resources and safe and effective use of fertilizers and pesticides. Awareness will be acquired in climate change and sustainable energy.

Outcome #1

1. Outcome Measures

Youth participants will acquire knowledge, skills and awareness regarding well head protection, point/non-point source pollution, environmental stewardship, management of natural resources and water conservation, as well as climate change and sustainable energy. Adult participants will incorporate skills/knowledge and change behavior related to: pollution prevention, management of water resources, litter disposal and waste management, conservation and recycling of natural resources and safe and effective use of fertilizers and pesticides. Awareness will be acquired in climate change and sustainable energy.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

More than 50% of rural residents in Alabama use groundwater as their main domestic water source. Private Wells in rural areas are not regulated by the Safe Drinking Water Act (SDWA); hence rising levels of contaminants often go undetected. Tuskegee University initiated a water testing program to serve the rural residents in Alabama Black Belt Counties (BBCs).

What has been done

A series of workshops were conducted as well as dissemination of educational resources in six BBCs, including Lowndes, Wilcox, Sumter, Marengo, Dallas and Perry. A broad range of topics were covered including watersheds principles, sources and effects of water contaminants, water testing, septic systems, and best management practices.

Results

Participatory approaches as well as pre-and post-tests were used to assess short- and medium-term outcomes. The pre-test/post-test results were used to evaluate the awareness level, knowledge gain, and change in attitude and behavior. Awareness level increased from 35% to 77%; knowledge gain increased from 57% to 71%; change in attitude towards water quality enhancement increased from 37% to 55%; while change in behavior towards community participation to protect water quality increased from 50% to 78%, after the workshop. The conclusion is that there are positive outcomes of the Tuskegee University water quality educational program in Alabama BBCs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
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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 Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Activities scheduled for this program area were affected by extreme weather conditions causing some field activities to be cancelled and competing programmatic challenges which led to lower participation rates for some workshops.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Over 400 students from various Black Belt counties participated in the annual Forestry camp, land use planning workshop for youth, and other environmental education programs. Seventy-five percent of these students show improved understanding and increased knowledge in environmental issues. Forty-five percent also indicated an interest in pursuing future careers in forestry and related areas. Also, 80% of farmers who participated in a Silvopasture and grazing management workshop indicated an improved awareness as well as significant increase in knowledge on Silvopasture and related practices. Participants in the water quality education program also showed an increase in awareness level from 35% to 77%; increase in knowledge gain from 57% to 71%; change in attitude towards water quality enhancement increased from 37% to 55%; while change in behavior towards community participation to protect water quality increased from 50% to 78%, after the workshop.

Key Items of Evaluation

As much as efforts in forestry and other natural resources management education continues, more emphasis is being laid on renewable energy and energy audit education, water quality education and environmental protection for youth and adults.