

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Economic Development and Quality of Life in Rural 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
131	Alternative Uses of Land			10%	
134	Outdoor Recreation			15%	
511	New and Improved Non-Food Products and Processes			15%	
604	Marketing and Distribution Practices			15%	
605	Natural Resource and Environmental Economics			10%	
608	Community Resource Planning and Development			20%	
724	Healthy Lifestyle			5%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures			5%	
903	Communication, Education, and Information Delivery			5%	
	Total			100%	

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	6.1	0.0
Actual	0.0	0.0	8.1	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	0	392830	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	681244	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	327960	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

West Virginia is considered to be a lagging region in terms of economic development and growth, a characteristic shared by many states in the Appalachian Region. While the region has abundant natural resources, particularly coal, natural gas, forests, water and recreational opportunities, unemployment is typically higher than in the rest of the Nation. Accordingly, the West Virginia Agricultural and Forestry Experiment Station has designated economic development and the quality of life in rural communities as one of our primary program areas. Work in this program area is divided into two categories: economic development and quality of life.

A significant part of rural employment growth nationwide has occurred in non-traditional economic activities including those capitalizing on natural resources and climate. A number of possible economic opportunities are currently being investigated in West Virginia, including pasture finished beef, cool water aquaculture, organic production of vegetables and animal products, and ecotourism. There is also an ongoing study of the effects of socio-economic characteristics including race and ethnic characteristics on participation in recreational activities and another study on the impact of the textile and apparel industry on the economy of the State.

Continued research on the legal barriers to growth in the aquaculture industry in the State resulted in a significant outcome in 2010. Model legislation was developed for WV that would clarify legal and environmental rules governing the State aquaculture industry and reduce barriers to growth of the industry. On April 2, 2010, Governor Joe Manchin signed into the law the West Virginia Aquaculture Development Act, Chapter 19, Article 32. Presented for the first time to the House of Representatives and the Senate of the West Virginia Legislature in February of 2010, this new Act passed both chambers with only two negative votes. This legislation was authored by a Davis College faculty member, pursuant to her participation in USDA funded research grant entitled Assessment and Development of a Legal/Institutional/Educational Framework For the Development of the Aquaculture Industry in West Virginia. This new law mandates the cooperation of major regulatory agencies impacting aquaculture. Since the passage of the law, The Department of Agriculture, Department of Environmental Protect, Division of Natural Resources and other statutorily mandated participants have formed an Aquaculture Advisory Board which has meet on four occasions with the ultimate goal of promulgating a comprehensive set of inter-agency regulations to promote the development of the aquaculture industry in West Virginia.

Our aquaculture project received recognition for its work from the American Farm Bureau. On June 17, 2010, The West Virginia Farm Bureau Magazine was awarded the top award in the nation for "Best

Print News or Feature Series" in the 2010 American Farm Bureau Public Relations Contest. This award was received for a five-part series titled "West Virginia Aquaculture: Fishing for Solutions." This series was produced by the same faculty member who wrote the Aquaculture Development Act as part of her contribution to the aquaculture project.

Other advances were made in the cool-water aquaculture projects. First, an informal survey of the aquaculture industry in the State indicated an increasing interest in aquaponics among current and prospective aquaculture producers. Aquaponics, which combines traditional aquaculture with hydroponics, serves two purposes for producers in that it removes nutrients from the aquacultural waste-water stream that otherwise would become pollutants when released and it produces plant products that can be sold to add to the income of the aquaculture operation. On the research front, a 12 week spring experiment examined growth, production and nutrient removal characteristics of Swiss chard, nasturtium, calendula, kohlrabi, lettuce and strawberry. Kohlrabi was most effective at nutrient removal, followed by Swiss chard and nasturtium. Calendula and strawberry had low removal rates. A summer experiment with the same crops examined growth, production and nutrient removal during summer. Kohlrabi performed the best for total harvestable plant product as well as total biomass. Swiss chard harvestable weight was less than Kohlrabi but still higher than lettuce during the spring/summer experiment. This suggests that the environmental conditions are able to produce a reliable harvestable product of lettuce from spring to fall but there is variability in harvestable weights in other cool-season crops.

Regional economic opportunities need to be based on the natural and human resources present in the region. One study attempted to assess whether the 299 counties (148 are non-metropolitan) in the Northeast (NE) region of the US can successfully build and pursue a growth strategy that depends on the local and neighborhood amenities (natural and built). The results of the impact of amenities on regional economic growth are mixed. Amenities within a county and/or surrounding counties play a significant role in the process of population growth. Historical and cultural amenities like museums, historical sites, zoos, and other attractions, play a positive direct and indirect role in attracting new immigrants. While the direct effect of natural amenities was negative, the indirect effect coming from surrounding counties was positive. This is an important finding with major policy implications. This implies that a county that lacks natural or historical attractions of its own can still benefit from the natural richness of its surrounding counties. Regional cooperation in preservation and management of natural resources and recreational facilities should be one of the main focuses in developing an amenity-led development strategy and then policy makers have to address how these resources are managed and funded. Generally amenities are public goods. If the cost of maintenance and development is left to the county within which they reside, they would tend to be underfunded and underdeveloped. Regional internalization of this positive externality is required to take full advantage of the natural asset in the regional economic growth process.

Another study examined the relationship between income inequality and poverty in Appalachia. The statistical results show an inverse relationship between poverty and income inequality, as also indicated by previous studies. This suggests that a policy geared towards reducing both poverty rate and income inequality at the same time may not be effective in the Appalachian Region. The study supported previous findings that higher per capita income and education reduced poverty. Agriculture, construction and manufacturing industries were found to help reduce poverty. The results also suggest that income inequality in the Appalachian Region may actually contribute to its economic growth and to the poverty reduction in the Region. The percentage of black population in a region was found to hinder policies aimed at poverty reduction and lowering income inequality. Therefore, special government programs providing economic opportunities to the black community in the counties could help in both economic growth and in reducing both poverty and income inequality of the Region. Results also suggest that policies to encourage people to go for higher education and to develop agriculture, construction and manufacturing industries in the region can help reduce income inequality and poverty.

Several different research and outreach activities were conducted on the quality of life in rural

communities. One study titled, "The Causes and Consequences of Tourism and Amenity-based Development on Forest-based Communities and Ecosystems," has contributed to institutional change within the USDA Forest Service and National Park Service in terms of the priority it places on collaborative processes and citizen participation in planning at all levels. This is clearly the case with recent initiatives such as the Sustainable Recreation Initiative, the Planning Rule process followed, and the Collaboration Networking workshops mentioned earlier. Work under this project has also contributed to the further institutionalizing of the "landscape lens" being integrated into Forest Service and Park Service planning at all levels.

Another project involved surveys on information transfer between beef producers and extension agents in West Virginia, satisfaction of contract poultry producers in West Virginia and Virginia and perceptions of West Virginia beef producers on preparedness for an agro-terrorism attack. Study results have created an awareness of the need for biosecurity training for beef producers.

2. Brief description of the target audience

The primary audience for our community and economic development activities is community managers, planners, policy makers, consultants and local development committees or groups. For aquacultural and agricultural product development and marketing, the audience includes producers, processors and distributors. Our work on the quality of life is used by local and State planners and policy makers and educators.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	0	0	0	0
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	4	
Actual	0	3	3

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Presentations on reserach at professional meetings

Year	Target	Actual
2010	9	11

Output #2

Output Measure

- Team consultations with, and reports to assist, community action groups focused on improving local economic development and quality of life.

Year	Target	Actual
2010	2	3

Output #3

Output Measure

- Completed graduate degree programs

Year	Target	Actual
2010	4	21

Output #4

Output Measure

- Popular press reports.

Year	Target	Actual
2010	2	4

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Expansion of economic activity in targeted state industries as indicated by annual increases in weighted indices of economic activity involving the production of pasture raised beef and sheep; broilers, turkeys and eggs; trout; organic vegetables; tourism and outdoor recreational activities; ornamental horticulture; timber and wood products etc. - % annual growth
2	Customized designs for enhanced economic development prepared for, and adopted by, state rural communities (#)
3	Enhancing the economic climate for business by removing unnecessary regulatory barriers.
4	Increase information available to farmers in the Appalachian Region about economic opportunities in the aquaculture industry.

Outcome #1

1. Outcome Measures

Expansion of economic activity in targeted state industries as indicated by annual increases in weighted indices of economic activity involving the production of pasture raised beef and sheep; broilers, turkeys and eggs; trout; organic vegetables; tourism and outdoor recreational activities; ornamental horticulture; timber and wood products etc. - % annual growth

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Customized designs for enhanced economic development prepared for, and adopted by, state rural communities (#)

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many communities in West Virginia are lagging economically and need assistance in developing plans to enhance their economic development, quality of life, and attractiveness to tourists. Our Community Design Team (CDT) has operated for 12 years to provide multidisciplinary University teams to help regional communities with economic development, tourism, flood control, transportation planning and design issues. The CDT is a joint venture of the Davis College and WVU Extension.

What has been done

In 2010 we had a multidisciplinary CDT visit in Rainelle, WV, and Montgomery, WV, and followup visits in four previously visited communities.

Results

For Rainelle we developed a basic design for a farmers' market, suggested trails in the hills and pedestrian connections in town, provided economic data, and provided some downtown revitalization ideas including youth concerns about places to play basketball and other activities,

ideas for historic park, a city hall facade and a second park in town. GIS work is being completed to connect Rainelle to the rest of the Greenbrier County area.

For Montgomery tangible results include a class set of mural designs produced by College Landscape Architecture students using historic postcards, selection of a design by the community members, and a completed mural painted by WVU students, college and high school students from the area. Also a class project from a public administration public planning class, documenting suggestions for community planning and change was delivered.

A follow up visit to Glenville, WV, involved a College student developing a design for a pocket-park next to the city hall as a follow-up to the visit there two years ago. Approximately \$400,000 in grant money is being spent on another park in the center of town that was discussed and designed during the original CDT visit. The park will be completed in Spring 2011.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
134	Outdoor Recreation
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development
724	Healthy Lifestyle
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
903	Communication, Education, and Information Delivery

Outcome #3

1. Outcome Measures

Enhancing the economic climate for business by removing unnecessary regulatory barriers.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Regulations involving the State aquaculture and other industries create barriers for farmers and business people wishing to enter or expand industries. Regulations in WV are often more restrictive than in surrounding states, reducing the competitiveness of WV businesses.

What has been done

Model legislation was developed for WV that would clarify legal and environmental rules governing the State aquaculture industry and reduce barriers to growth of the industry. On April 2, 2010, Governor Joe Manchin signed into the law the West Virginia Aquaculture Development Act, Chapter 19, Article 32. Presented for the first time to the House of Representatives and the Senate of the West Virginia Legislature in February of 2010, this new Act passed both chambers with only two negative votes. The work was the result of a long-term USDA funded project entitled Assessment and Development of a Legal/Institutional/Educational Framework For the Development of the Aquaculture Industry in West Virginia. This new law mandates the cooperation of major regulatory agencies impacting aquaculture.

Results

Since the passage of the law, The Department of Agriculture, Department of Environmental Protect, Division of Natural Resources and other statutorily mandated participants have formed an Aquaculture Advisory Board which has meet on four occasions with the ultimate goal of promulgating a comprehensive set of interagency regulations to promote the development of the aquaculture industry in West Virginia.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
604	Marketing and Distribution Practices
608	Community Resource Planning and Development
903	Communication, Education, and Information Delivery

Outcome #4

1. Outcome Measures

Increase information available to farmers in the Appalachian Region about economic opportunities in the aquaculture industry.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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2010 {No Data Entered} 0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There are many economic opportunities in cool-water aquaculture in the Appalachian Region due to the proximity to markets on the Eastern Seaboard and the relative abundance of clean and cold water.

What has been done

Our aquaculture project researchers and extension personnel developed a five-part series on the aquaculture industry, regulations, and opportunities based on the long term project based at West Virginia University.

Results

On June 17, 2010, The West Virginia Farm Bureau Magazine was awarded the top award in the nation for "Best Print News or Feature Series" in the 2010 American Farm Bureau Public Relations Contest. This award was received for a five-part series titled "West Virginia Aquaculture: Fishing for Solutions."

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
604	Marketing and Distribution Practices
608	Community Resource Planning and Development
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

Key Items of Evaluation