

# 2010 University of the District of Columbia Combined Research and Extension Plan of Work

Status: Accepted  
Date Accepted: 05/11/09

## I. Plan Overview

### 1. Brief Summary about Plan Of Work

The University of the District of Columbia is very unique; it is the only totally urban land-grant institution in the United States. When one hears the word "agriculture" some things that immediately come to mind are rural, livestock, farming, and dairy. Considering the needs of our respective state, the District of Columbia, it is the mission of the DC Agricultural Experiment Station and the Cooperative Extension Service to conduct research, investigations, and experiments in areas that are relevant to the residents of our nation's capital and provide informal education through workshops, demonstrations and technical assistance to enhance life quality by increasing knowledge, changing behaviors and improve conditions.

Like most large cities, the District of Columbia works diligently to combat problems in public safety, literacy, affordable housing, healthcare, natural resources and the environment, and economic development. In a continued effort to provide effective and more focused programs to benefit our urban society, AES/CES established eight (8) goals in alignment with the five (5) strategic goals set by the U.S. Department of Agriculture. These carefully planned goals provide our research and extension staff with direction and specificity, while fostering creativity, team work, and perseverance. The goals are to: 1) promote urban agriculture in the fields of nutrition and health, natural resource conservation, urban gardening, food production, and community vitality; 2) expand activities to include some critical urban issues such as socio and economic concerns, plight of the homeless population, diabetes, obesity, and illiteracy; 3) develop revitalization projects in the Anacostia and Chesapeake Bay Watersheds; 4) promote affordable sustainable neighborhoods and healthy urban environments; 5) promote environmental education training programs for students and teachers; 6) integrate all AES/CES programs; 7) enhance viability and visibility of the AES Muirkirk Research Farm; and 8) improve Information Transfer.

This plan of work has been streamlined from more than 25 programs to 4 comprehensive and focused programs:

1) In the Human Health and Nutrition, Healthy Urban Life Style, and Food Safety program, AES and CES are working together to address major health issues for District residents in the areas of diabetes, obesity, breast cancer and asthma. Additionally, the program focus is on nutrition and healthy urban life styles for DC residents, including improving diet and exercise behaviors in older adults; food stamp education; food handler certification; and food safety support for the elderly. Other relevant projects include teacher education in nutrition and agriculture and integrated pest management for sustained reduction of pest population in low income urban households.

2) The Natural Resources and Environment Program will include relevant research and extension education that provides a balance among growing local food and maintaining urban forestry. This program will continuously assess and monitor natural resources and changes in the urban environment.

3) As with other large U.S. cities, our nation's capital is dealing with a myriad of public concerns varying from education to housing to economic development. The Urban Families, Youth, and Communities program will focus on issues related to sustaining individuals, families, and communities in the District of Columbia.

4) Urban Plants Production and Protection program will promote urban gardening as an instrumental means for residents to raise their own fresh, organic fruits and vegetables for consumption and/or sale while protecting the environment. Additionally, residents will be educated in viable urban sustainable agricultural practices for crop production in an urban setting with a reduction in disease and insect infestation.

**Estimated Number of Professional FTEs/SYs total in the State.**

Year	Extension		Research	
	1862	1890	1862	1890
2010	31.8	0.0	1.7	0.0
2011	31.8	0.0	1.7	0.0
2012	31.8	0.0	1.7	0.0
2013	31.8	0.0	1.7	0.0
2014	31.8	0.0	1.7	0.0

**II. Merit Review Process**

**1. The Merit Review Process that will be Employed during the 5-Year POW Cycle**

- Internal University Panel
- External University Panel
- External Non-University Panel
- Expert Peer Review

**2. Brief Explanation**

Each year the Director reviews the progress of each research project to ensure that researchers are accomplishing their objectives. Modifications were made to move in the direction of implementing research and integrated activities based on issues germane to an urban environment. The Peer Review has expanded to include not only representatives from the Department of Biological and Environmental Sciences, the Department of Chemistry, the Department of Physics, the Cooperative Extension Service, the community, state, and local government, but also the Departments of Sociology, Urban Affairs, Criminal Justice, Psychology, and the Water Resources Research Institute. The Peer Review criteria remains, but not limited to:

- Knowledge base of the research
- Adequacy of procedures and experiment to meet the objectives
- Feasibility of accomplishing the objectives
- Scientific merit of the proposed research
- Familiarity with work of others related to the proposal
- Outcomes and Impacts
- Appropriate budget for proposed research
- Budget justification

The Experiment Station has changed the format of the proposal submission to require information pertaining to the logic model to be incorporated in the proposal. The Peer Review Evaluation has been updated to reflect this. Knowledge base of research

Our merit review committee is comprised of at least five (5) members chosen from the internal university, external university, and external non-university to review new research/extension projects and activities. Based on stakeholders input, this committee will review the projects and activities to determine if they address our local urban needs and concerns and overall

feasibility of conducting projects and activities. The reviewers will assess program projects and activities per the criteria listed below:

- 1.
2. Quality of proposed programs and activities
3. Feasibility of accomplishing the goals
4. Scientific and technological understanding of proposed research
5. Relevance in addressing local urban needs
6. Familiarity with work of others related to the proposal
7. Student Participation
8. Inclusion of underrepresented and/or underserved individuals, groups, or communities
9. Project Inputs
10. Outcomes and Impacts

- 
- 
- 
- 
- 
- 
- 
- 
- 

### III. Evaluation of Multis & Joint Activities

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

Our joint AES/CES Advisory Committee will assist and guide us in strengthening programs activities to address the critical needs identified in the District of Columbia. Further, stakeholder input will be gathered and analyzed from other sources to include: listening sessions; Brown Bag Series; and "Quality of Life Day" (Community Day) Events. Also, the Mayor's Strategic Plan for the District of Columbia, along with the National Goals set by USDA, will be considered when planning and implementing research and extension activities. Together, these strategies provide direction and specificity, thereby helping us to implement our plan of work which addresses issues of strategic importance identified by our stakeholders.

#### 2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?

In order to meet the needs of under-served and under-represented populations in the District, CES has developed partnerships and collaborations with government agencies, District of Columbia Public Schools, and other public and private organizations and agencies city-wide. The partnership developed with the DC Department of Parks and Recreation provides 8 sites for program offerings, one in each of the eight wards. This allows CES to meet the needs of the "at risk" groups including children, youth and the elderly and provide activities in areas where clusters of different ethnic groups live and work. The Gentrification process has isolated areas where different population groups live and work; however, these sites allow us to take programs to those neighborhoods. Also, several of the studies conducted in AES are designed to address specific health, nutrition, literacy, and socio-economic concerns of African Americans, Hispanics, the elderly, and other disadvantaged groups.

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

Each of the planned programs will complete assessments to develop baseline data (pretest) prior to implementation; the implementation and interventions provided will be followed by a post test instrument. Outcomes and impacts will be described as changes in behavior, attitudes, increased in learning skills, adopting a new practice, policy changes, dollars saved, value added, new partnerships developed, and changes in conditions as a result of each program.

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

The Agricultural Experiment Station is participating in multi-state research projects with other academic institutions in the U.S. to include the University of New Hampshire, University of Maine, University of Rhode Island, University of Vermont, South Carolina State University, Wayne State University, Colorado Cooperative Extension, Nevada Cooperative Extension, and other land grant institutions in the states of Kentucky, Michigan, Minnesota, New Jersey, New York City, Ohio, Oregon, South Dakota, Texas, Utah, and Washington State. Faculty/researchers at the University of the District of Columbia within the Colleges of Arts and Sciences, the School of Engineering and Applied Science, and the Water Resources Research Institute, have been involved in relevant research addressing the needs of the District. The DC Agricultural Experiment Station and the Cooperative Extension Service continue to work together in a joint effort to provide a quality research and extension program for the residents of our capital city. CES is currently partnering with other academic institutions such as Cornell, the University of Maryland, and government and non government organizations to include D.C. Public and Charter Schools, DC Department of Health, U.S. National Arboretum, DC Housing and Finance, DC Energy, and the National Gardening Association.

As a result of partnering with other academic institutions to engage in multi-state research, AES has broadened and strengthened its research program; increased its opportunities for additional funding; contributed to the resolution of national issues in nutrition and health; and maintained relevance and sustainability in serving the residents of our nation's capital. Further, AES and CES have benefitted from their associations with government and non government organizations through the sharing and receipt of information and ideas, some of which may contribute to the formulation and implementation of new and/or improved programs, projects, or activities in support of our urban initiatives.

## IV. Stakeholder Input

### 1. Actions taken to seek stakeholder input that encourages their participation

- Survey of traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to traditional stakeholder groups
- Use of media to announce public meetings and listening sessions
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of the general public
- Targeted invitation to non-traditional stakeholder individuals

#### Brief explanation.

The actions taken to encourage stakeholder participation will be accomplished by a variety of methods. AES/CES will jointly develop a stakeholder process by:

1. Establishing a joint AES/CES stakeholder Advisory Committee that will meet quarterly to provide advice and recommendations on matters relating to urban issues in the District of Columbia;
2. Develop and maintain a manual with by-laws governing the Advisory committee;
3. Collection input surveys via our website, at workshops, community and civic organizational meetings, from DC Public School Teachers, our University faculty, staff and students;
4. Provide workshops, informal presentations and dialogue meetings for stakeholders in order to ascertain their interests, concerns, as well as comments relating to the work and efforts of AES and CES;
5. Set up stakeholders listening sessions, at least once a year per ward;
6. Encourage discussion among and between stakeholders;
7. Effectively communicate the results or feedback from stakeholders' involvement and expectations in program outcomes and impacts.

**2(A). A brief statement of the process that will be 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 Internal Focus Groups
- Use External Focus Groups
- Use Advisory Committees
- Use Surveys
- Needs Assessments

**Brief explanation.**

Stakeholders will be identified and selected from:

1. Residents of the District of Columbia
2. Local government agencies
3. Local businesses and organizations
4. Public school system
5. Institutions of higher education
6. Community groups
7. Youth organizations
8. Faith-based organizations

Our Marketing/Public Relations Specialist and Civil Rights Coordinator is responsible for ensuring that the stakeholders we serve are a representation of the diverse and increasing ethnic population of the District of Columbia.

**2(B). A brief statement of the process that will be 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 specifically with non-traditional groups
- Survey of traditional Stakeholder groups
- Survey of traditional Stakeholder individuals
- Meeting with traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey specifically with non-traditional groups
- Meeting with invited selected individuals from the general public

**Brief explanation**

The Agricultural Experiment Station and Cooperative Extension Service continue to disseminate surveys to residents to determine critical needs. We have revised our surveys to focus more specifically on critical issues in the District of Columbia. We are not only distributing the survey manually but are working with University technicians to also make it assessable through our University's website. Input from stakeholders is also provided by informal contact through e-mails, telephone, interviews and neighborhood meetings as well as through community forums and events. The established AES/CES Advisory Committee, diverse in specialization and experience, will be instrumental in helping AES/CES to assess the needs/priorities of DC residents. The Cooperative Extension Service cultivated and trained a highly involved stakeholder group in FY 2008. We will continue to strive to always provide activities that are stakeholder customer driven.

**3. A statement of how the input will be considered**

- To Set Priorities
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs

**Brief explanation.**

Stakeholders input will be considered in the following:

- To provide insight into identifying critical research and extension needs of the residents of the District of Columbia;
- To assist and guide in developing the Plan of Work;
- To assist and guide in reviewing impacts and outcome reports;
- To assist and guide in developing new strategies based on continuous assessment of impacts and outcomes;

Stakeholders' information will help to develop a more comprehensive scope of work, setting priorities and redirecting research and extension programs and activities that will ultimately benefit the residents of the District of Columbia. Stakeholders will also be able to provide comments regarding the effectiveness in delivery of programs and activities

**V. Planned Program Table of Content**

S. NO.	PROGRAM NAME
1	Natural Resources and the Environment
2	Urban Plants Production and Protection
3	Human Health and Nutrition, Healthy Urban Life Style, and Food Safety
4	Urban Families, Youth, and Communities

**V(A). Planned Program (Summary)**

**Program #1**

**1. Name of the Planned Program**

Natural Resources and the Environment

**2. Brief summary about Planned Program**

The natural resources in the District of Columbia are in a totally urban environment with urban forestry and gardening. Soil, air and water quality encompass the three environmental factors that affect the quality of life of the residents with water quality being most significant. Providing the relevant research and extension education that provide a balance among growing local food, maintaining urban forestry, and the impact of gentrification as a result of antiquated storm and waste water infrastructures coupled with emerging concerns of environmental degradation has become a significant challenge. This program will continuously assess and monitor natural resources and changes in the urban environment of the District of Columbia. Research activities and extension education for youth and adults will be implemented to determine new mechanisms to maintain a healthy and friendly ecosystem while educating the residents to appreciate, adopt and maintain these changes.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	30%		30%	
111	Conservation and Efficient Use of Water	20%		20%	
112	Watershed Protection and Management	20%		20%	
124	Urban Forestry	10%		15%	
141	Air Resource Protection and Management	10%		15%	
806	Youth Development	10%		0%	
	<b>Total</b>	100%		100%	



## V(C). Planned Program (Situation and Scope)

### 1. Situation and priorities

We are constantly being made aware of the great damage being affected upon the environment, on future generations and ourselves. While the earth is being impacted by global warming, the relationship among air, soil and water in the District of Columbia Metropolitan Area have a profound impact on natural resources and a clean and healthy environment. The Anacostia River Watershed is a heavily polluted tributary to the Potomac River. Location in this densely populated area and suffering years of environmental neglect has made this Watershed become known as a "degraded urban ecosystem." Decline in the ecological health of the Watershed has been contributed to by soil erosion, which has caused increased sedimentation resulting in mud flats along the banks of the tidal river; expanding human population; loss of forest and wetland habitat; loss and reduction in vegetation; land runoff; discharge of combined sewer overflow; increase in non-point source pollution; and industrial overflow. An informed citizenry, empowered by the realization of the benefits of healthy rivers and Watersheds along with the knowledge that they know what to do to improve the river can provide substantial support in the pursuit of clean rivers.

The sewer system in the District of Columbia is comprised of both combined and separate sewer systems. It has been recognized that these systems contribute significant pollution to the Anacostia and Potomac Rivers and Rock Creek through Combined Sewer Overflows (CSOs) and Storm Sewer discharges during wet-weather (i.e., rainfall and snowmelt) events. These overflows and associated pollutant loads have been adversely impact the quality of the receiving waters ultimately Chesapeake Bay. In order to address the water quality problem, District of Columbia Water and Sewer Authority (WASA) has developed a Long Term Control Plan (LTCP) that provides the alternative solutions and their implementation costs. However, funds to implement this plan have not been available; hence alternative mechanisms to reduce pollutant loads into the waterway are being researched and developed.

The priorities of this program are:

- Maintain an integrated research and extension program that will identify and solve soil, air, and water quality problems as a specific result of urban forestry, gardening, and aging infrastructures activities; and
- Provide extension activities that educate residents in the District of Columbia to become environmentally responsible in maintaining a healthy and wholesome environment;
- Promote the "Green Concept" as a preventive mechanism to environmental degradation

### 2. Scope of the Program

- In-State Research
- In-State Extension
- Integrated Research and Extension

## V(D). Planned Program (Assumptions and Goals)

### 1. Assumptions made for the Program

- The way people use the environment on a daily basis goes a long way in determining the upkeep of any new low impact development project implemented to clean up the environment;
- Education for the masses has not been introduced into the institutions of learning at the level it will take to overcome the problems;
- While there are massive amounts of curricula, field trips and camps, and experts available to support teachers in the classroom and community, few have had the expertise to use them; and
- Funding will be available and public interest will continue.

### 2. Ultimate goal(s) of this Program

- Establish collaborative and working partnerships with community residents and Watershed restoration groups that can identify potential environmental research problems; increase public awareness, knowledge, and participation in the clean-up and restoration of the all watersheds in the District of Columbia;

- Enhance personal stewardship in the interest of environmental maintenance and beautification among the residents; and

- Establish a system of environmental education within DC Public School for the future environmentalists.

## V(E). Planned Program (Inputs)

### 1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2010	7.2	0.0	3.0	0.0
2011	7.2	0.0	3.0	0.0
2012	7.2	0.0	3.0	0.0
2013	7.2	0.0	3.0	0.0
2014	7.2	0.0	3.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

1. Research projects on the changes in soil, air and water quality due to environmental decreasing urban forest; urban gardening; aging storm and waste water infrastructures; effectiveness of low impact development projects as best management practice to reduce non-point source pollution;
2. Maintain a soil, air, and water quality monitoring program and testing lab
3. Train and certify DC Public School Teachers as Environmental educators;
4. Develop and distribute informational materials such as fact sheets and brochures regarding changes in natural resources and environmental issues in the District; and
5. Provide workshops, demonstrations and technical assistance on effect of environmental degradation on quality of life to the District residents.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

Extension	
Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Workshop</li> <li>● Demonstrations</li> <li>● Education Class</li> <li>● Group Discussion</li> </ul>	<ul style="list-style-type: none"> <li>● Web sites</li> <li>● TV Media Programs</li> <li>● Newsletters</li> </ul>

**3. Description of targeted audience**

- District of Columbia residents
- DC Public School Teachers
- Youth - Grades K-12
- urban gardeners
- Storm and waste water operators
- landscapers
- nursery owners

**V(G). Planned Program (Outputs)**

**1. Standard output measures**

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	20000	25000	10000	25000
2011	20000	25000	10000	25000
2012	20000	25000	10000	25000
2013	20000	25000	10000	25000
2014	20000	25000	10000	25000

**2. (Standard Research Target) Number of Patent Applications Submitted**

**Expected Patent Applications**

2010 :0                      2011 :0                      2012 :0                      2013 :0                      2014 :0

**3. Expected Peer Review Publications**

Year	Research Target	Extension Target	Total
2010	2	2	4
2011	2	2	4
2012	2	2	4
2013	2	2	4
2014	2	2	4

**V(H). State Defined Outputs**

**1. Output Target**

- Number of articles published

2010 :4                      2011 :4                      2012 :4                      2013 :4                      2014 :4

- Number of fact sheets published

2010 :10                      2011 :10                      2012 :10                      2013 :10                      2014 :10

- Number of newsletter published

2010 :2                      2011 :2                      2012 :2                      2013 :2                      2014 :2

- Number of workshops, demonstrations and technical assistance implemented.

2010 :100                      2011 :100                      2012 :100                      2013 :100                      2014 :100

- Number of research projects completed

2010 :2                      2011 :2                      2012 :2                      2013 :2                      2014 :2

- Number of soil, air and water samples test results

2010 :1000                      2011 :1000                      2012 :1000                      2013 :1000                      2014 :1000

- Number of informational materials distributed

<b>2010</b> 25000	<b>2011</b> 25000	<b>2012</b> 25000	<b>2013</b> 25000	<b>2014</b> 25000
-------------------	-------------------	-------------------	-------------------	-------------------

- Number of conference presentations

<b>2010</b> 5	<b>2011</b> 5	<b>2012</b> 5	<b>2013</b> 5	<b>2014</b> 5
---------------	---------------	---------------	---------------	---------------

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
1	Percent of program participants that will become more environmentally aware due to new knowledge from informational materials provided and workshop presentations
2	Percent of program participants that will implement new environmental skills to improve natural resources and the environment
3	Percent of soil, air, and water samples meeting EPA standards after implementation of research project.

**Outcome #1**

**1. Outcome Target**

Percent of program participants that will become more environmentally aware due to new knowledge from informational materials provided and workshop presentations

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2010** 50                      **2011** : 50                      **2012** : 50                      **2013** 50                      **2014** :50

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 124 - Urban Forestry
- 141 - Air Resource Protection and Management

**Outcome #2**

**1. Outcome Target**

Percent of program participants that will implement new environmental skills to improve natural resources and the environment

**2. Outcome Type :** Change in Action Outcome Measure

**2010** 25                      **2011** : 25                      **2012** : 25                      **2013** 25                      **2014** :25

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 124 - Urban Forestry
- 141 - Air Resource Protection and Management

**Outcome #3**

**1. Outcome Target**

Percent of soil, air, and water samples meeting EPA standards after implementation of research project.

**2. Outcome Type :** Change in Condition Outcome Measure

**2010** 50                      **2011** : 50                      **2012** : 50                      **2013** 50                      **2014** :50

**3. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**4. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships

- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 124 - Urban Forestry
- 141 - Air Resource Protection and Management

## **V(J). Planned Program (External Factors)**

### **1. External Factors which may affect Outcomes**

- Economy
- Populations changes (immigration,new cultural groupings,etc.)
- Appropriations changes
- Natural Disasters (drought,weather extremes,etc.)

#### **Description**

1. Natural disasters such as hurricanes and tornadoes may impact projects implemented to improve the environment as well as offset the ecosystem balance.
2. Availability of funds to implement programs may change with changes in the National economy and local and federal appropriations.
3. There is an increase in immigrant population in the District of Columbia making extension education more challenging and demanding, but also providing research opportunities.

## **V(K). Planned Program (Evaluation Studies and Data Collection)**

### **1. Evaluation Studies Planned**

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

#### **Description**

1. Pre and post test will be administered to determine change in knowledge
2. Case studies of research projects to determine changes in conditions through sampling test results as well as observations.

### **2. Data Collection Methods**

- Tests
- On-Site
- Sampling
- Observation
- Telephone
- Structured

#### **Description**

1. Soil, air and water samples will be collected from monitoring and/or research sites to measure change in conditions;
2. During workshops, onsite survey will be completed to measure change in knowledge and also request new areas or interest from participants;
3. Telephone surveys will be conducted to validate workshop data and garner new interest;
4. Site assessments and observations projects will be conducted; and
5. Tests to certify participants will be administered.

**V(A). Planned Program (Summary)**

**Program #2**

**1. Name of the Planned Program**

Urban Plants Production and Protection

**2. Brief summary about Planned Program**

Urban gardening is an instrumental means for residents of the District of Columbia to raise their own fresh, organic fruits and vegetables for consumption and/or sale. Sustainable agriculture research is a viable methods to determine the crops most suitable for production in the northeastern region and to establish the most appropriate techniques to ensure the highest crop yields. Training urban gardeners on how to successfully develop and protect gardens will enable residents to enjoy the harvest of crops essential to good health and is also an effective means to increase the number of community and educational garden projects in the District of Columbia.

**3. Program existence :** Mature (More then five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	20%		25%	
205	Plant Management Systems	20%		25%	
216	Integrated Pest Management Systems	20%		25%	
721	Insects and Other Pests Affecting Humans	20%		25%	
806	Youth Development	20%		0%	
<b>Total</b>		100%		100%	

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

The recent dramatic increase in energy prices has had an associated effect on food prices, especially vegetables. This has created an even greater demand and opportunity for home and community based gardens and urban sustainable agriculture.

Though yard space is limited in the District of Columbia, fruits and vegetables are easy to grow in small home gardens as well as in containers. Other options include rooftops, side walk plots, government owned unused lots, hanging baskets, and window boxes. With the correct amount of water, sunlight, healthy soil, and proper planting techniques, residents can enjoy fresh fruits and vegetables from their own garden while reducing our impact on the environment. Community gardens are on the rise



and the benefits are countless. Residents enjoy working together and sharing fresh fruits, vegetables, and herbs with the members of their community. And these gardens help people to reclaim their neighborhoods, turning unattractive areas into beautiful sites. Further, community gardens reflect the cultural identity of the people who create them.

The Master Gardener Program and the Junior Master Gardener Program (JMG) expose adults and youth to the principles of horticulture to increase awareness and educational opportunities through the study of sustainable agriculture. The Junior Master Gardener Program provides inner-city youth with hands-on horticultural skills and environmental experiences that instill a sense of empowerment and accomplishment.

Gardeners in the Washington Metropolitan area have serious problems with the Mexican and cucumber beetles in their squash and cucumber production. Several diseases are also affecting the production of tomato, cabbage, lettuce, broccoli and cauliflower. Among these diseases are anthracnose, fusarium wilt, blossom end rot, damping off and various other fungus infections. Many of the gardeners in the District of Columbia are reluctant to use chemical pesticides to control insects and diseases; hence, integrated pest management education and certification are required to protect vegetable production.

Priorities of this program are:

To increase the number of urban gardeners who understand the value of using low-input sustainable vegetable gardening to grow and protect their crops;

To increase the amount of composted waste being used as a soil amendment in the urban gardens of the District of Columbia;

To increase the collaborative efforts between researchers of the Agricultural Experiment Station and extension agents in getting gardeners to adopt sustainable agricultural techniques;

To increase the number of publications that communicate technical information on sustainable agricultural techniques to urban gardeners, agricultural science technicians and any other interested individuals in garden production and other allied agricultural sciences; and

To provide a Pesticide Safety Education Program which will provide initial applicator training for the in-demand pesticide applicator categories that qualify students for the applicator license exam as well as integrated pest management for urban gardening

## 2. Scope of the Program

- Multistate Research
- In-State Extension
- Integrated Research and Extension
- In-State Research

## V(D). Planned Program (Assumptions and Goals)

### 1. Assumptions made for the Program

1. The demand for urban gardening will increase due to increase in food price;
2. Many of the gardeners in the District of Columbia are reluctant to use chemical pesticides to control insects and diseases;
3. Community gardens will become increasingly popular, serving as a means of improving social consciousness and productive citizenry; and
4. Funding is available and public interest will continue.

### 2. Ultimate goal(s) of this Program

1. To increase the numbers of, skills and knowledge in urban community and home gardeners in the District of Columbia through the Master and Junior Master Gardeners Program;
2. To expand the concept of gardening from local plots to rooftop, balcony, vacant lots and other areas for food production and beautification;
3. Continue sustainable agriculture research on urban gardening on cool and warm season crops to determine more efficient mechanisms for production and protection;
4. Change behavior of urban gardeners by promoting the use of compost verses inorganic fertilizers to decrease non point source pollution and degradation of DC environment; and

5. Increase the number of certified and/or licensed pesticide applicators in the District of Columbia.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2010	4.0	0.0	3.0	0.0
2011	4.0	0.0	3.0	0.0
2012	4.0	0.0	3.0	0.0
2013	4.0	0.0	3.0	0.0
2014	4.0	0.0	3.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

- Conduct field experiments in the use of composted waste as a soil amendment for growing vegetables in urban gardens and their impact on the environment will be conducted at Muirkirk Research Farm in Beltsville, MD;
- Facilitate workshops, training sessions, demonstrations, field activities, and farm tours for program participants to teach and update knowledge of sustainable agricultural techniques to establish, maintain, and protect both vegetable and flower gardens;
- Develop and distribute informational fact sheets, brochures, and newsletters related to production and protection of urban gardens;
- Participate in local, National, and international conferences and meetings on sustainable agriculture and urban gardening;
- Provide pesticide safety education and certification for monitoring insect and disease infestations and recommendations for control while preventing environmental degradation;
- Maintain Junior and Master Gardening certification which will train garders will beautifying the city with volunteer hours.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

Extension	
Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Workshop</li> <li>● Group Discussion</li> <li>● Education Class</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Newsletters</li> <li>● Web sites</li> </ul>

**3. Description of targeted audience**

- District of Columbia residents
- DC Public School Teachers
- Youth - Grades 3-8
- urban community gardeners
- small rural farmers
- landscapers
- nursery owners

**V(G). Planned Program (Outputs)**

**1. Standard output measures**

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	25000	35000	10000	15000
2011	25000	35000	10000	15000
2012	25000	35000	10000	15000
2013	25000	35000	10000	15000
2014	25000	35000	10000	15000

**2. (Standard Research Target) Number of Patent Applications Submitted**

**Expected Patent Applications**

2010 :0                      2011 :0                      2012 :0                      2013 :0                      2014 :0

**3. Expected Peer Review Publications**

Year	Research Target	Extension Target	Total
2010	2	2	4
2011	2	2	4
2012	2	2	4
2013	2	2	4
2014	2	0	0

**V(H). State Defined Outputs**

**1. Output Target**

- Number of articles published

2010 :2                      2011 :2                      2012 :2                      2013 :2                      2014 :2

- Number of fact sheets published

2010 :10                      2011 :10                      2012 :10                      2013 :10                      2014 :10

- Number of Newsletters published

2010 :2                      2011 :2                      2012 :2                      2013 :2                      2014 :2

- Number of workshops, demonstrations and technical assistance implemented.

2010 :100                      2011 :100                      2012 :100                      2013 :100                      2014 :100

- Number of research projects completed

2010 :2                      2011 :2                      2012 :2                      2013 :2                      2014 :2

- Number of soil, plant and water samples test results

2010 :1000                      2011 :1000                      2012 :1000                      2013 :1000                      2014 :1000

- Number of informational materials distributed

<b>2010</b> 25000	<b>2011</b> 25000	<b>2012</b> 25000	<b>2013</b> 25000	<b>2014</b> 25000
-------------------	-------------------	-------------------	-------------------	-------------------

- Number of conference presentations

<b>2010</b> 6	<b>2011</b> 6	<b>2012</b> 6	<b>2013</b> 6	<b>2014</b> 6
---------------	---------------	---------------	---------------	---------------

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
1	Percent of program participants that will adapt new knowledge of urban gardening from informational materials provided and workshop presentations
2	Percent increase in urban gardens using some compost material as a soil amendment
3	Percent of workshop and training participants that will become certified Pesticide applicator
4	Percent of soil, plant and water sample results within acceptable crop production range

**Outcome #1**

**1. Outcome Target**

Percent of program participants that will adapt new knowledge of urban gardening from informational materials provided and workshop presentations

**2. Outcome Type :** Change in Action Outcome Measure

**2010** 50                      **2011** : 50                      **2012** : 50                      **2013** 50                      **2014** :50

**3. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**4. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 721 - Insects and Other Pests Affecting Humans

**Outcome #2**

**1. Outcome Target**

Percent increase in urban gardens using some compost material as a soil amendment

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2010** 25                      **2011** : 25                      **2012** : 25                      **2013** 25                      **2014** :25

**3. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**4. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 205 - Plant Management Systems

**Outcome #3**

**1. Outcome Target**

Percent of workshop and training participants that will become certified Pesticide applicator

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2010** :75                      **2011** : 75                      **2012** : 75                      **2013** 75                      **2014** :75

**3. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**4. Associated Knowledge Area(s)**

- 216 - Integrated Pest Management Systems
- 721 - Insects and Other Pests Affecting Humans

**Outcome #4**

**1. Outcome Target**

Percent of soil, plant and water sample results within acceptable crop production range

**2. Outcome Type :** Change in Condition Outcome Measure

**2010** 50

**2011** : 50

**2012** : 50

**2013** 50

**2014** :50

**3. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**4. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 721 - Insects and Other Pests Affecting Humans

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Populations changes (immigration,new cultural groupings,etc.)
- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes

**Description**

1. Natural disasters such as hurricanes and tornadoes may impact or destroy urban gardens.
2. Availability of funds to implement programs may change with changes in the National economy and local and federal appropriations.
3. There is an increase in immigrant population in the District of Columbia making extension education more challenging and demanding, but also providing research opportunities for ethnic vegetables.

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

**1. Evaluation Studies Planned**

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

**Description**

1. Pre and post test will be administered at workshops and demonstration to determine change in knowledge
2. Case studies of research projects to determine changes in conditions through sampling test results as well as observations.

**2. Data Collection Methods**

- Tests
- Telephone
- Observation
- Structured
- Sampling
- On-Site

**Description**

1. Soil, plant and water samples will be collected from monitoring and/or research sites to measure change in conditions;
2. During workshops, onsite surveys will be completed to measure change in knowledge and also request new areas or interest from participants;
3. Telephone surveys will be conducted to validate workshop data and garner new interest;
4. Site assessments and observations projects will be conducted; and

5. Tests to certify participants will be administered.



**V(A). Planned Program (Summary)****Program #3****1. Name of the Planned Program**

Human Health and Nutrition, Healthy Urban Life Style, and Food Safety

**2. Brief summary about Planned Program**

The Agricultural Experiment Station (AES) and the Cooperative Extension Service (CES) are working together to provide a quality program that addresses major health issues for District of Columbia (DC) residents in the areas of diabetes, obesity, breast cancer and asthma. Additionally, the program focus is on nutrition and healthy urban life style for DC residents, including food stamp education; food handler certification; and food safety support for the elderly. Other relevant projects include teacher education in nutrition and agriculture and integrated pest management for sustained reduction of pest population in low income urban households.

Despite the importance of fruit, vegetable and whole grain intake and exercise in maintaining health and functional status, older adults are not meeting minimum dietary and activity recommendations. AES is a participant in multi-state research for changing health trajectory for older adults through effective diet and activity modifications.

Genetics is important to diabetes prevention and control. Much research has been conducted to investigate the genetic, environmental and behavioral causes of diabetes. However, most of these collected data are currently analyzed with statistical methods that do not handle issues of missing and noisy data. AES is conducting a study to develop fuzzy-set-theory based approaches for diabetes data analysis because they can 1) handle the qualitative variables; 2) handle and noisy quantitative variables with granulation; and 3) they can reduce the impact of missing data by granulating the presented data.

Obesity has become the most prevalent nutritional disease of children and adolescents (Dietz, 1998; CDC, 2005). Children from low socio-economic status and racial/ethnic minority groups tend to have higher rates of obesity in comparison to other groups (Nesbitt et al., 2004; Thompson et al., 2003). AES is a participant in multi-state research for the prevention of obesity in high risk families. The complexity and multi-faceted nature of obesity development and its intractability strongly argue for multi-disciplinary approaches. As obesity is listed among the leading public health problems in the District of Columbia, CES is also conducting studies in obesity relating to preschoolers, adolescents, children and youth, and adults. The Center for Nutrition, Diet and Health (CDNH) promotes personal responsibility for practicing food safety and enhances the community's access to information and services. The Center provides educational programs to assist food stamp recipients with making healthy food choices.

The lack of community awareness contributes to the disproportionate impact of asthma on African-American and Hispanic children in the District (Allergy and Asthma Foundation of America). CES provides District residents with information about indoor air quality issues such as radon, secondhand smoke, asthma triggers, and sanitation. Further, CES trains low income DC residents to manage residential roach and rodent populations. The goal of extension is to combine sound integrated pest management practices with asthma trigger abatement.

**3. Program existence :** Intermediate (One to five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**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	30%		20%	
704	Nutrition and Hunger in the Population	10%		0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	10%		0%	
721	Insects and Other Pests Affecting Humans	10%		0%	
723	Hazards to Human Health and Safety	0%		10%	
724	Healthy Lifestyle	20%		10%	
806	Youth Development	20%		0%	
901	Program and Project Design, and Statistics	0%		30%	
903	Communication, Education, and Information Delivery	0%		30%	
	<b>Total</b>	100%		100%	

### V(C). Planned Program (Situation and Scope)

#### 1. Situation and priorities

There are relatively few studies examining the role of the family in shaping and supporting behaviors leading to weight gain, loss or maintenance (IOM, 2003). The priority of this program is to develop fuzzy-set-theory-based methodologies for the measurement of behavioral differences. Key behaviors that lead to pediatric obesity as well as those behaviors that lead to resilience will be determined. Research will be conducted on preschoolers, adolescents, youth, and adults to decrease risk factors associated with obesity.

Many researchers have been investigating the genetic, environmental and behavioral causes of diabetes. However, most of these collected data are currently analyzed with statistical methods which 1) do not handle issues of missing and noisy data and 2) can only provide mathematical interpretation of the datasets, without other forms of knowledge. Thus, there is a great need for exploring the diverse diabetes data with the powerful classic computer science data mining techniques and building new data mining tools for this purpose.

Older adults fall short of meeting both nutrition (fruit, vegetable and whole grain) and physical activity goals of Healthy People 2010. Only 6% of older adults consume at least three daily servings of vegetables and only 4% of older women and 11% of older men consume at least six daily servings of grain products. There is clearly a need for additional research that will lead to improvements in both diet and exercise behaviors in older Americans.

Vitamin E includes a family of lipophilic micronutrients consisting of four tocopherols and four tocotrienols both of which are present in the human diet. Despite possessing several preventive/therapeutic advantages, tocotrienols are well understudied as compared to tocopherols. AES is investigating the molecular mechanism whereby g-T3 inhibits the growth of breast cancer cells.

Nutrition education programs are needed in the District of Columbia to assist residents with making healthy food choices consistent with the most recent dietary advice as reflected in the Dietary Guidelines for Americans and the Food Guide Pyramid. The District has over 21,000 registered commercial and non commercial food operations which are required to employ certified and re-certify supervisory food handlers in food sanitation every three years. The Center for Nutrition, Diet and Health (CNDH) will provide nutritional education for food stamp recipients/eligibles. CES will offer Food Handler education to small non-commercial service agencies in the city to increase the food handler's compliance with food safety principles and hazard analysis and critical control points.

An estimated 10,000 children under age 18 and 22,000 adults in the District of Columbia suffer from asthma. As an effort to reduce hospitalizations, doctor visits, and medication, CES will provide residents with information about indoor air quality issues. The CES IPM program will work with residents, especially those who have asthma, to provide training in managing residential roach and rodent populations in their homes.

## 2. Scope of the Program

- In-State Research
- Multistate Research
- In-State Extension

## V(D). Planned Program (Assumptions and Goals)

### 1. Assumptions made for the Program

- Genetics, environment and behavior are factors in obesity. •Parent-Child interaction can be a major factor responsible for influence of children with obese parents more likely to be obese. •Nutrition is an important determinant of health in elderly adults. •Hospitalizations and emergency room visits will be reduced for those using information provided by Asthma Project. •Target population will be available and willing to participate in obesity studies. •Formula funding will continue. •New partnerships can be created based on funding availability. •Teachers will continue to volunteer for programs. •Non-Fee based services contingent upon other CNDH program participation by partnering organizations.

- Current statistical methods/tools used to analyze diabetes data are very limited

- Vitamin E includes a family of lipophilic micronutrients consisting of four tocopherols and four tocotrienols both of which are present in the human diet

### 2. Ultimate goal(s) of this Program

- Provide advances in the study of obesity •Decrease the incidence of childhood obesity in the District of Columbia
- Develop fuzzy-set-theory-based data mining approaches and apply them to diabetes data which include genetic, clinical and survey data •Significantly reduce nutritional causes of morbidity and mortality in the elderly population •Decrease risk factors for chronic disease, better management of conditions, weight maintenance and overall improved health •Decrease illnesses due to food contamination in non-commercial agencies •Increase number of residents able to identify issues in their homes relating to asthma •Decrease vermin populations and asthma episodes brought on by mouse and roach allergen in the District of Columbia •Increase agriculture literacy for teachers and students, grades Pre-K - 12

- Identify nutrients that may be chemo-preventative in breast cancer and/or its role in inhibiting the progression of breast cancer

## V(E). Planned Program (Inputs)

### 1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2010	8.7	0.0	1.9	0.0
2011	8.7	0.0	1.9	0.0
2012	8.7	0.0	1.9	0.0
2013	8.7	0.0	1.9	0.0
2014	8.7	0.0	1.9	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Changing the Health Trajectory for Older Adults through Effective Diet and Activity Modifications:

- Investigate and compare priorities of high fruit and vegetable consumers with the low fruit and vegetable consumers
- Design new and innovative activities through which nutrition education can be effectively rendered
- Collect and modify traditional recipes to improve the nutrition density and to increase the vegetable content and publish the recipe book
- Study the effect of folic acid supplementation to improve the memory

Developing Fuzzy-set-theory-based Data Mining Methodologies for Diabetes Data Analysis:

- Further develop X-test family, which includes FM-test, CM-test and MDCM-test, for numerical non-microarray diabetes data
- Further develop X-test family for non-numerical and heterogeneous data
- Explore an innovative concept fuzzy 3-D correlation index for handling incomplete and noisy data

Obesity Prevention Behavioral Measures:

- Expert field review of key behavioral measures purported to contribute to excessive weight gain in children aged 4 - 10 years old will be conducted. •Anthropometric and physiological measures will be identified that could be used to differentiate families within the target population in the community setting. •Parent-child interactions will be assessed in target population as they relate to key behaviors identified as being associated with resilience to overweight. •Appropriate tools to effectively measure salient behavioral differences between low-income families in the parent-child relationships will be determined; and a framework for prevention strategies targeting the development of resilience behaviors will be designed. Workshop sessions inclusive of sustainable agriculture and careers, Internet activities, and field trips taught by university and external experts in the field of agriculture are provided to reinforce the District of Columbia Public and Private Schools Standards of Learning and the goals/objectives of the National and Local Agriculture in the Classroom Program.

Agriculture in the Classroom:

Integrated Pest Management for Low Income Urban Households:

- Home visits and intervention

Food Stamp Education:

- Train-the-trainer
- FFNews
- Creative Curriculum
- Color Me Healthy
- Tickle Your Appetite
- 5 A Day
- DCPS Nutrition Curriculums
- 45 -Food Safety & Dietary Quality Lessons Developed

Food Handler Certification:

- Instruction on food handler certification regulations
- DC Code Examination

Nutrient Modulation of P53-ATF3 Signaling in Breast Cancer

Investigate the molecular mechanism whereby g-T3 inhibits the growth of breast cancer cells

**2. Type(s) of methods to be used to reach direct and indirect contacts**

Extension	
Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>• One-on-One Intervention</li> <li>• Demonstrations</li> <li>• Education Class</li> <li>• Group Discussion</li> <li>• Other 1 (Conference Presentations)</li> <li>• Workshop</li> <li>• Other 2 (Train-the-Trainer)</li> </ul>	<ul style="list-style-type: none"> <li>• Web sites</li> <li>• TV Media Programs</li> <li>• Public Service Announcement</li> <li>• Newsletters</li> </ul>

**3. Description of targeted audience**

- Adult men and women over the age of 65 who live in Metropolitan Washington, DC
- Resilient and non resilient families with children ages 4 – 10 years
- Computer Scientists and Biologists who focus of microarray data analysis and diabetes
- DC Public School teachers
- Students, grades Pre-K through 9
- Children 2 -5 years of age
- Pre-School/Headstart and Daycare teacher volunteers
- Non-commercial agency staff members
- Ongoing participating food handlers
- Non-profits
- Residential Homes
- Children, ages 3 – 12, and families who reside in area of the District where asthma percentage is high
- Overweight individuals and non overweight individuals from the same environment
- Obese individuals and non obese individuals from the same environment
- Low income residents living in multi-family housing

- Researchers/Biologists

**V(G). Planned Program (Outputs)**

**1. Standard output measures**

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	1600	250	7400	0
2011	1600	250	7400	0
2012	1600	250	7400	0
2013	1600	250	7400	0
2014	1600	250	7400	0

**2. (Standard Research Target) Number of Patent Applications Submitted**



	2010	2011	2012	2013	2014
● Number of residents who are able to identify issues in their homes related to asthma as a result of the CES Asthma project.	100	100	100	100	100
● Classroom instruction/workshops (20 clock hours) on Food Handler Certification Regulations to include DC Code Examination, National Examination or Serve Safe National Examination, and Practice Examinations	225	225	225	225	225
● Design and employ a food questionnaire to identify portion sizes and quantity of fruits and vegetables for registered participants	1	1	0	0	0
● Assess four day food diary data for the number of portions of fruits and vegetables for registered participants	1	1	0	0	0
● Establish intervention/focus groups for registered participants consuming less than 5 servings of fruits and vegetables per day and identify the determinants of low consumption of fruits and vegetables.	1	1	0	0	0
● Design and implement educational classes to assist registered participants with improving consumption of fruits and vegetables	0	0	1	1	0

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
1	Advances in the study of obesity, particularly an understanding of various inputs and interactions of family and child, SES, nutrition, physiology and behavior, will result from this work, opening doors of opportunity for development of effective solutions to reverse trends in childhood obesity.
2	Percentage of student participants who have increased knowledge as to where and how food is grown.
3	Percentage of students and teachers in grades Pre-K with increased agriculture literacy.
4	Number of teachers who have increased their awareness, knowledge, and understanding of agriculture, nutrition, and food gardening.
5	Percentage of participants with increased knowledge of the Food Guide Pyramid and Dietary Guidelines for Americans.
6	Percentage of participants with increased knowledge of nutrition of various fruits and vegetables
7	Percentage of parent participants who make better food choices (fruits/vegetables).
8	Percentage of decrease in the risk factors food borne illness.
9	Number of participants gaining awareness, knowledge and skills in Food Handling techniques.
10	Number of participants scoring a required minimum of 70% on post test and national examination.
11	Percentage of participants who improved eating habits.
12	Percentage of decrease in the incidences of obesity in the District of Columbia
13	Number of participants gaining awareness, knowledge, and skills in nutrition and agriculture.
14	Number of residents who have applied knowledge to alleviate vermin in their homes.
15	Number of residents who have made changes, i.e. elimination of secondhand smoke, removal of mold and/or mildew, and/or sanitation measures, in their homes as a result of information received from participating in the CES Asthma Project.
16	Improved techniques for analyzing data that may lead to increased understanding of diabetes and the development of strategies to prevent and control diabetes.
17	Development and publishing of a recipe book that will be instrumental in assisting older adults with vegetable and fruit dietary requirements
18	Number of participants who have increased their daily intake of fruits and vegetables
19	Identification of nutrient modulation leading to broad applications for the inhibition of breast cancer cell proliferation and possibly cell transformation
20	Development of fuzzy-set-theory-based methodologies for the measurement of behavioral differences.



**Outcome #1****1. Outcome Target**

Advances in the study of obesity, particularly an understanding of various inputs and interactions of family and child, SES, nutrition, physiology and behavior, will result from this work, opening doors of opportunity for development of effective solutions to reverse trends in childhood obesity.

**2. Outcome Type :** Change in Knowledge Outcome Measure

<b>2010</b> 0	<b>2011</b> : 0	<b>2012</b> : 0	<b>2013</b> 0	<b>2014</b> :0
---------------	-----------------	-----------------	---------------	----------------

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior

**Outcome #2****1. Outcome Target**

Percentage of student participants who have increased knowledge as to where and how food is grown.

**2. Outcome Type :** Change in Knowledge Outcome Measure

<b>2010</b> :75	<b>2011</b> : 75	<b>2012</b> : 75	<b>2013</b> 75	<b>2014</b> :75
-----------------	------------------	------------------	----------------	-----------------

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 704 - Nutrition and Hunger in the Population

**Outcome #3****1. Outcome Target**

Percentage of students and teachers in grades Pre-K with increased agriculture literacy.

**2. Outcome Type :** Change in Condition Outcome Measure

<b>2010</b> 90	<b>2011</b> : 90	<b>2012</b> : 90	<b>2013</b> 90	<b>2014</b> :90
----------------	------------------	------------------	----------------	-----------------

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 704 - Nutrition and Hunger in the Population

**Outcome #4****1. Outcome Target**

Number of teachers who have increased their awareness, knowledge, and understanding of agriculture, nutrition, and food gardening.

**2. Outcome Type :** Change in Knowledge Outcome Measure

<b>2010</b> 30	<b>2011</b> : 30	<b>2012</b> : 30	<b>2013</b> 30	<b>2014</b> :30
----------------	------------------	------------------	----------------	-----------------

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 704 - Nutrition and Hunger in the Population

**Outcome #5**

**1. Outcome Target**

Percentage of participants with increased knowledge of the Food Guide Pyramid and Dietary Guidelines for Americans.

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2010** :50                      **2011** : 50                      **2012** : 50                      **2013** :50                      **2014** :50

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior

**Outcome #6**

**1. Outcome Target**

Percentage of participants with increased knowledge of nutrition of various fruits and vegetables

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2010** :50                      **2011** : 50                      **2012** : 50                      **2013** :50                      **2014** :50

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior

**Outcome #7**

**1. Outcome Target**

Percentage of parent participants who make better food choices (fruits/vegetables).

**2. Outcome Type :** Change in Condition Outcome Measure

**2010** :50                      **2011** : 50                      **2012** : 50                      **2013** :50                      **2014** :50

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior

**Outcome #8**

**1. Outcome Target**

Percentage of decrease in the risk factors food borne illness.

**2. Outcome Type :** Change in Condition Outcome Measure

**2010** :100                      **2011** : 100                      **2012** : 100                      **2013** :100                      **2014** :100

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #9****1. Outcome Target**

Number of participants gaining awareness, knowledge and skills in Food Handling techniques.

**2. Outcome Type :** Change in Knowledge Outcome Measure

2010 :400                      2011 : 400                      2012 : 400                      2013 :400                      2014 :400

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #10****1. Outcome Target**

Number of participants scoring a required minimum of 70% on post test and national examination.

**2. Outcome Type :** Change in Action Outcome Measure

2010 :365                      2011 : 365                      2012 : 365                      2013 :365                      2014 :365

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #11****1. Outcome Target**

Percentage of participants who improved eating habits.

**2. Outcome Type :** Change in Action Outcome Measure

2010 :50                      2011 : 50                      2012 : 50                      2013 : 50                      2014 :50

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle

**Outcome #12****1. Outcome Target**

Percentage of decrease in the incidences of obesity in the District of Columbia

**2. Outcome Type :** Change in Condition Outcome Measure

2010 :20                      2011 : 20                      2012 : 20                      2013 : 20                      2014 :20

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle

**Outcome #13**

**1. Outcome Target**

Number of participants gaining awareness, knowledge, and skills in nutrition and agriculture.

**2. Outcome Type :** Change in Knowledge Outcome Measure

2010 :400                      2011 : 400                      2012 : 400                      2013 :400                      2014 :400

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior

**Outcome #14**

**1. Outcome Target**

Number of residents who have applied knowledge to alleviate vermin in their homes.

**2. Outcome Type :** Change in Action Outcome Measure

2010 :100                      2011 : 100                      2012 : 100                      2013 :100                      2014 :100

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 721 - Insects and Other Pests Affecting Humans

**Outcome #15**

**1. Outcome Target**

Number of residents who have made changes, i.e. elimination of secondhand smoke, removal of mold and/or mildew, and/or sanitation measures, in their homes as a result of information received from participating in the CES Asthma Project.

**2. Outcome Type :** Change in Action Outcome Measure

2010 :100                      2011 : 100                      2012 : 100                      2013 :100                      2014 :100

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 724 - Healthy Lifestyle

**Outcome #16**

**1. Outcome Target**

Improved techniques for analyzing data that may lead to increased understanding of diabetes and the development of strategies to prevent and control diabetes.

**2. Outcome Type :** Change in Knowledge Outcome Measure

2010 0                      2011 : 0                      2012 : 0                      2013 0                      2014 :1

**3. Associated Institute Type(s)**

•1862 Research

**4. Associated Knowledge Area(s)**

- 901 - Program and Project Design, and Statistics

**Outcome #17****1. Outcome Target**

Development and publishing of a recipe book that will be instrumental in assisting older adults with vegetable and fruit dietary requirements

**2. Outcome Type :** Change in Knowledge Outcome Measure

2010 0                      2011 : 0                      2012 : 0                      2013 0                      2014 : 1

**3. Associated Institute Type(s)**

•1862 Research

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior
- 903 - Communication, Education, and Information Delivery

**Outcome #18****1. Outcome Target**

Number of participants who have increased their daily intake of fruits and vegetables

**2. Outcome Type :** Change in Action Outcome Measure

2010 0                      2011 : 50                      2012 : 50                      2013 50                      2014 : 50

**3. Associated Institute Type(s)**

•1862 Research

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior

**Outcome #19****1. Outcome Target**

Identification of nutrient modulation leading to broad applications for the inhibition of breast cancer cell proliferation and possibly cell transformation

**2. Outcome Type :** Change in Knowledge Outcome Measure

2010 0                      2011 : 0                      2012 : 0                      2013 0                      2014 : 1

**3. Associated Institute Type(s)**

•1862 Research

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior
- 723 - Hazards to Human Health and Safety

**Outcome #20****1. Outcome Target**

Development of fuzzy-set-theory-based methodologies for the measurement of behavioral differences.

**2. Outcome Type :** Change in Knowledge Outcome Measure

2010 0                      2011 : 0                      2012 : 0                      2013 0                      2014 : 1

**3. Associated Institute Type(s)**

•1862 Research

**4. Associated Knowledge Area(s)**

- 901 - Program and Project Design, and Statistics

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Public Policy changes
- Populations changes (immigration,new cultural groupings,etc.)
- Competing Public priorities
- Natural Disasters (drought,weather extremes,etc.)
- Other (Family and Social Support)
- Government Regulations
- Appropriations changes

**Description**

Family and Social Support:

Once elderly adults are aware of optimal nutritional choices, food preparation, and eating behavior, it will be necessary for them to have:easy access to nutritious foods and means of preparation; public health and social support; and family support. Changes in nutrition policy, new data and results from research may affect the outcomes of this research project.

Appropriation Changes:

Continued funding is imperative to the effort of this important research.

Other Issues that may affect certain aspects of the program include:

- Space acquisition
- Continued interest of teachers
- Unstable homes
- Drug & alcohol abuse
- Partnerships
- Support of Community organizations
- Parental involvement
- Scheduling of participants for participation

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

**1. Evaluation Studies Planned**

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

**Description**

In changing the health trajectory for older adults, participants will be administered pre and post-test/questionnaires

A tool package will be developed that is general enough to be used in other behavioral study where the measurement of behavior differences are essential.

Outcomes will be evaluated assessing changes in dietary choices and eating behaviors; improved food choices; slow weight loss; better glycemic controls, increase in exercise, and improved snack selection.Changes will be measured by a follow-up evaluation survey of participant behavior.

In the Diabetes study, fuzzy-set-theory based approaches for diabetes data analysis will be developed to reduce the impact of missing data and handle noisy quantitative variables

Molecular mechanisms will be investigated in breast cancer cells

Each participant of the CES Asthma Project will complete an evaluation form after receiving information and home audit.After a three month period a follow-up survey will be sent to ascertain if any changes in the home have taken place.

Food Handler Certification will include:

- Pretest
- Post Test
- National Examination
- DC Code Examination
- Ability of agencies to pass DC inspections
- Measure of knowledge acquired from food handler certification messages include in the national examination
- Data Collection
- Data Analysis
- Reporting

Teachers Understanding Nutrition and Agriculture will include:

- Pre and Post Tests
- Surveys
- Telephone Interviews
- One on One Interviews
- Classroom Observation

**2. Data Collection Methods**

- Tests
- Other (Gene Microassay)
- Case Study
- Structured
- Sampling
- Observation

**Description**

• Quantitative data will be collected by administering a food questionnaire and collecting information recorded in a four day food diary to determine participants' portion sizes and quantity of fruits and vegetables. Focus groups and Intervention activities will be established to improve intake with the administering of pre and post testing. •Observation instruments and structured evaluation instruments will be used for data collection. •Data collection measures will be appropriate for the interventions (obesity research). •Pre and Post test identification of specimens (IPM). •Diabetes Study: Further developing of X-test family for numerical non-microarray diabetes data; further development of X-test family for non-numerical and heterogeneous data; and exploration of an innovative concept fuzzy 3-D correlation index for handling incomplete and noise data. •Tests (Food Handler) •Pre-test and immediate post test and quarterly follow-up •Post Test •National Examination •DC Code Examination •Ability of Agencies to pass DC Inspections •Measure knowledge acquired from food handler certification messages include in the national examination

**V(A). Planned Program (Summary)****Program #4****1. Name of the Planned Program**

Urban Families, Youth, and Communities

**2. Brief summary about Planned Program**

Like most large cities, our nation's capital is dealing with a myriad of public concerns varying from education to housing to economic development. The Agricultural Experiment Station (AES) and the Cooperative Extension Service (CES) are teaming efforts to provide a quality program that addresses issues related to sustainable individuals, families, and communities in the District of Columbia.

CES is helping to shape the city's youth through leadership and development activities in the national 4-H program. 4-H program activities will assist young people in developing knowledge, skills, and attitudes that will enable them to become self-directing, responsible, productive, and contributing members of society. In an effort to break the chain of illiteracy that ties people to poverty, CES, through its DC Reads project, is working with students in the District's after-school programs with a variety of interactive and fun activities designed to improve reading skills. Further, parenting classes are offered to assist parents, in particular grandparents, who often find themselves raising their grandchildren.

Due to the rapid change in the economy, many residents are experiencing financial woes. The CES basic financial project provides information to residents in an effort to help them to start achieving financial self-sufficiency. Housing affordability is also a critical issue in the District of Columbia. As the city is transforming to accommodate its increasing population, mostly middle to high income residents, low to moderate income individuals and families are feeling the effect of gentrification. The CES Center for Cooperatives is working to promote affordable housing for lower income residents in the city. Along those lines, the Home and Maintenance Repair project in CES provides District residents with basic to advanced knowledge and skills to perform interior and exterior repairs. And in support of economic development in the city, CES is working with community partners and the Small Business Administration.

AES has conducted research in youth violence and plans to continue studies in areas related to urban families, youth, and communities. Also, the Station has sponsored youth projects to include Adopt-the Block, a recycling and city beautification effort; Plants R' Us and Urban Agriculture Grasshoppers, classroom visitation projects engaging fourth graders in horticulture and agriculture activities; and Standing in the Gap (STING), an urban environmental education and literacy project.

The first annual AES/CES Urban Agricultural Fair was held in June 2008. The event was attended by five participating DC Public Schools, grades 4 – 7. A total of 150 students, along with teachers and parents, spent a day at the Muirkirk Research Farm to learn more about their urban environment, agriculture, and horticulture. There were eleven stations set up to include: Wetlands of Wheels; Horticulture; Sustainable Agriculture; Water Quality and Research; Sustainable Communities; Youth Leadership; Nutrition and Health; Arts and Crafts; Marine Science; Basic Soils; and Junior Master Gardeners. The fair will continue to be held yearly in June.

**3. Program existence :** Intermediate (One to five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

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



KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
602	Business Management, Finance, and Taxation	10%		0%	
608	Community Resource Planning and Development	10%		0%	
801	Individual and Family Resource Management	10%		0%	
802	Human Development and Family Well-Being	10%		0%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	10%		0%	
806	Youth Development	50%		100%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

Studies show that at-risk youth need intervening programs to strengthen and promote positive youth development which prevents risky and unhealthy behaviors. As in many urban areas, Washington, DC has a youth population struggling to overcome high crime and gang violence, poverty, illiteracy, teen pregnancy, drug abuse, behaviors resulting in sexually transmitted diseases, inadequate employment opportunities, unsafe school environments, and high risk behaviors that have long term impacts on their self confidence. 4-H is the intervention that is needed to overcome many of these barriers to success. Leadership development through 4-H and Youth Development community clubs, special projects, competitions and community events will be used to give youth a sense that they can achieve their goals.

Washington, DC is in the top three states leading the nation in illiteracy. Literacy experts say that level one readers, which makes up 37 percent of the DC population, can't read well enough to follow map directions, fill out an application for social security or employment, read a prescription and food label or read a story to a child. About 25% of DC residents are level two readers; they can do what level one readers can not but they can't write a letter explaining a credit card error, use a bus schedule, and summarize a newspaper article. More than 130,000 District residents have less than a high school diploma or GED. This program is targeting children in order to reverse the cycle. The priority of the DC Reads project is to help children improve their reading abilities, thereby giving them a greater opportunity for success in the future.

Approximately 8,100 District grandparents are responsible for providing basic care to children residing in their homes. Grandparent caregivers are highly in need of accurate, easily accessible, timely information and assistance on issues such as legal, financial, support services and health education. The CES Parenting Project priorities include implementing a navigator program, providing practical information and guidance to inter-generational families, and general parenting classes.

The CES Financial Literacy project assists city residents in need to acquire the knowledge and skills to achieve financial security, in an effort to create prosperous communities, nurturing neighborhoods, and strong families in the District. The priority of the project is to focus on behavioral change in an effort to help residents obtain self-sufficiency leading to future stability. As a result of the affordable housing crisis in the city, the Center for Cooperatives is working with the community to promote affordable housing for low to moderate income residents. And with the number of first time buyers and senior increasing in our city, CES provides Home Maintenance and Repair for residents to help reduce high costs associated with home repairs.

AES will continue to team with CES to plan and implement youth urban environmental education projects and develop research projects to assist in addressing critical issues related to urban families, youth, and communities in the District of Columbia.

**2. Scope of the Program**

- In-State Extension
- In-State Research

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

•4-H will continue to receive grant support   •4-H activities will maintain and develop new partnerships to service youth  
 •4-H will expand services to youth across the city   •Parental participation, as well as that of volunteers, will increase in the DC Reads Project   •DC reads will continue to expand   •New partnerships will continue to be developed for the Parenting Project   •Funding will be available for the Parenting Project   •District residents will find it more difficult to use the courts to wipe out consumer and business debt.   •The effect of gentrification serves to undermine the poor.   •District resident completing the Home Maintenance and Repair workshops will save an average of \$25 - \$35 per repair.   •The gap between the rich and the poor is widening in the District of Columbia.

**2. Ultimate goal(s) of this Program**

•Assist youth with gaining confidence in themselves and their abilities as they learn to work with others and explore new horizons and possibilities for their lives.   •Improve illiteracy   •To increase positive parenting as well as the number of parenting groups   •To increase the annual number of DC residents purchasing homes through some form of financial assistance.   •To slow the conversion rate and foreclosure rate for coops by 20%.   •To train residents to be able to perform repairs and to become more educated about the process when dealing with contractors.   •To assist businesses to remain in business in the District.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2010	11.9	0.0	1.0	0.0
2011	11.9	0.0	1.0	0.0
2012	11.9	0.0	1.0	0.0
2013	11.9	0.0	1.0	0.0
2014	11.9	0.0	1.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

- Leadership Development Meetings
- Woodworking Projects
- Language Program - Spanish
- Gardening Projects
- Computer Labs
- Nutrition Program
- Water Quality and GIS Technology
- Tutoring:Tutors assigned to after-school program
- Curriculum Development
- Fact Sheets
- Newsletters
- Financial Literacy Sessions/Workshops
- High School Financial Planning Program
- Videotape series with Co-op Information
- Co-op Groups

Demonstrations for Home Repair  
 Community Business entry-level training

**2. Type(s) of methods to be used to reach direct and indirect contacts**

Extension	
Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Workshop</li> <li>● One-on-One Intervention</li> <li>● Group Discussion</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Web sites</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● Public Service Announcement</li> </ul>

**3. Description of targeted audience**

Youth  
 Adults  
 Seniors  
 Military Personnel  
 DC residents  
 College students  
 Ex-offenders  
 Low to moderate income residents  
 First-time buyers  
 Low income homeowners  
 Small, new start, home based businesses

**V(G). Planned Program (Outputs)**

**1. Standard output measures**

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	33940	0	7000	0
2011	33945	0	7500	0
2012	33950	0	8000	0
2013	33950	0	8000	0
2014	33950	0	8000	0

**2. (Standard Research Target) Number of Patent Applications Submitted**

**Expected Patent Applications**

2010 :0                      2011 :0                      2012 :0                      2013 :0                      2014 :0

**3. Expected Peer Review Publications**

Year	Research Target	Extension Target	Total
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

## V(H). State Defined Outputs

### 1. Output Target

- Youth will receive pre and post testing and regular tutoring to improve their reading skills.

2010 500                      2011 500                      2012 :500                      2013 500                      2014 500

- Curriculum developed for various parenting workshops, seminars, support groups, fact sheets, and newsletters.

2010 5                      2011 5                      2012 :5                      2013 5                      2014 5

- Number of participants in parenting workshops.

2010 200                      2011 200                      2012 :200                      2013 200                      2014 200

- Number of parenting support groups formed.

2010 :10                      2011 :10                      2012 :10                      2013 :10                      2014 :10

- Percentage increase in the number of parenting support groups.

2010 25                      2011 25                      2012 :25                      2013 25                      2014 25

- Conduct a minimum of 48 sessions in the area of financial literacy.

2010 48                      2011 48                      2012 :48                      2013 48                      2014 50

- Conduct 10 sessions per year for junior and senior high schools in the District of Columbia on financial planning.

2010 :10                      2011 :10                      2012 :10                      2013 :10                      2014 :10

- Number of individuals in co-ops and subsidized housing trained on roles, rights, and responsibilities of co-op members, managers, and directors.

2010 200                      2011 200                      2012 :200                      2013 200                      2014 200

- Develop newsletter and/or fact sheets for District residents so they can perform basic/advanced repairs in and around their home.

2010 2                      2011 2                      2012 :2                      2013 2                      2014 2

- Conduct hands-on workshops for District residents in basic and advanced home repair.

2010 50                      2011 50                      2012 :50                      2013 50                      2014 50

- Increase in the number of 4-H clubs throughout the city.

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	:10	:10	:10	:10	:10
● Hold a minimum of 20 co-op training sessions for co-op members and individuals in subsidized housing.					
	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	:20	:20	:20	:20	:20
● Develop a videotape series, webpage and links to provide continuous scheduled training and information on co-op housing issues.					
	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	:1	:1	:1	:1	:1
● Youth will receive training in the areas of sewing, computer technology, and geospatial technology.					
	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	:400	:400	:400	:400	:400
● Youth will receive leadership development training through conferences and special programs.					
	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	:300	:300	:300	:300	:300
● Tutors will receive training to both assess and treat reading disabilities.					
	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
	:20	:20	:20	:20	:20

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
1	Number of children who have increased their knowledge of the essential elements of team work through participation in 4-H club activities.
2	Number of children who have learned about importance of responsibility through participation in 4-H activities.
3	Number of DC Reads participants who have experienced greater success in school.
4	Percentage of students who have increased their reading skills.
5	Number of parenting workshop participants who have used their knowledge of support services available to apply for assistance in an effort to meet some of their parenting needs.
6	Number of parenting workshop participants who have gained knowledge in basic child care.
7	Number of participants increasing their income tax refunds through tax planning.
8	Number of DC residents who participated in a Financial Literacy workshop who are now or have purchased homes with some form of financial assistance.
9	Number of participants who have changed their attitudes about co-op housing ownership in the District of Columbia.
10	Number of participants able to make repairs as well as communicate with contractors in a professional manner.
11	Number of District residents participating in workshops offered on home maintenance and repair who have reduced the cost of repairs to their home by \$25.00 or more.
12	Number of small business participants who changed their minds about developing and maintaining a successful business in the District of Columbia.
13	Percentage of businesses participating in the program that experienced a positive impact.
14	Number of youth passing test to become certified in Hair Braiding.
15	Number of Youth volunteering for community service projects/activities, i.e. DC Reads tutoring and neighborhood cleanup/beautification efforts.

**Outcome #1**

**1. Outcome Target**

Number of children who have increased their knowledge of the essential elements of team work through participation in 4-H club activities.

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2010** 500                      **2011** : 500                      **2012** : 500                      **2013** 500                      **2014** :500

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 806 - Youth Development

**Outcome #2**

**1. Outcome Target**

Number of children who have learned about importance of responsibility through participation in 4-H activities.

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2010** 400                      **2011** : 400                      **2012** : 400                      **2013** 400                      **2014** :400

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 806 - Youth Development

**Outcome #3**

**1. Outcome Target**

Number of DC Reads participants who have experienced greater success in school.

**2. Outcome Type :** Change in Condition Outcome Measure

**2010** 300                      **2011** : 300                      **2012** : 300                      **2013** 300                      **2014** :300

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 806 - Youth Development

**Outcome #4**

**1. Outcome Target**

Percentage of students who have increased their reading skills.

**2. Outcome Type :** Change in Action Outcome Measure

**2010** 50                      **2011** : 50                      **2012** : 50                      **2013** 50                      **2014** :50

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 806 - Youth Development

**Outcome #5****1. Outcome Target**

Number of parenting workshop participants who have used their knowledge of support services available to apply for assistance in an effort to meet some of their parenting needs.

**2. Outcome Type :** Change in Action Outcome Measure

2010 :100                      2011 : 100                      2012 : 100                      2013 :100                      2014 :100

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 802 - Human Development and Family Well-Being

**Outcome #6****1. Outcome Target**

Number of parenting workshop participants who have gained knowledge in basic child care.

**2. Outcome Type :** Change in Knowledge Outcome Measure

2010 25                      2011 : 25                      2012 : 25                      2013 25                      2014 :25

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 802 - Human Development and Family Well-Being

**Outcome #7****1. Outcome Target**

Number of participants increasing their income tax refunds through tax planning.

**2. Outcome Type :** Change in Action Outcome Measure

2010 500                      2011 : 500                      2012 : 500                      2013 500                      2014 :500

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 801 - Individual and Family Resource Management

**Outcome #8****1. Outcome Target**

Number of DC residents who participated in a Financial Literacy workshop who are now or have purchased homes with some form of financial assistance.

**2. Outcome Type :** Change in Condition Outcome Measure

2010 50                      2011 : 50                      2012 : 50                      2013 :100                      2014 :100

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 801 - Individual and Family Resource Management



**Outcome #9**

**1. Outcome Target**

Number of participants who have changed their attitudes about co-op housing ownership in the District of Columbia.

**2. Outcome Type :** Change in Action Outcome Measure

**2010** 500                      **2011** : 500                      **2012** : 500                      **2013** 500                      **2014** :500

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 801 - Individual and Family Resource Management

**Outcome #10**

**1. Outcome Target**

Number of participants able to make repairs as well as communicate with contractors in a professional manner.

**2. Outcome Type :** Change in Condition Outcome Measure

**2010** 250                      **2011** : 250                      **2012** : 250                      **2013** 250                      **2014** :250

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 801 - Individual and Family Resource Management
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**Outcome #11**

**1. Outcome Target**

Number of District residents participating in workshops offered on home maintenance and repair who have reduced the cost of repairs to their home by \$25.00 or more.

**2. Outcome Type :** Change in Condition Outcome Measure

**2010** 500                      **2011** : 500                      **2012** : 500                      **2013** 500                      **2014** :500

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 801 - Individual and Family Resource Management
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**Outcome #12**

**1. Outcome Target**

Number of small business participants who changed their minds about developing and maintaining a successful business in the District of Columbia.

**2. Outcome Type :** Change in Action Outcome Measure

**2010** 50                      **2011** : 50                      **2012** : 50                      **2013** 50                      **2014** :50

**3. Associated Institute Type(s)**

•1862 Extension

**4. Associated Knowledge Area(s)**

- 602 - Business Management, Finance, and Taxation

**Outcome #13**

**1. Outcome Target**

Percentage of businesses participating in the program that experienced a positive impact.

**2. Outcome Type :** Change in Condition Outcome Measure

**2010** :50                      **2011** : 50                      **2012** : 50                      **2013** :50                      **2014** :50

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 602 - Business Management, Finance, and Taxation

**Outcome #14**

**1. Outcome Target**

Number of youth passing test to become certified in Hair Braiding.

**2. Outcome Type :** Change in Condition Outcome Measure

**2010** :40                      **2011** : 40                      **2012** : 40                      **2013** :40                      **2014** :40

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 806 - Youth Development

**Outcome #15**

**1. Outcome Target**

Number of Youth volunteering for community service projects/activities, i.e. DC Reads tutoring and neighborhood cleanup/beautification efforts.

**2. Outcome Type :** Change in Action Outcome Measure

**2010** :70                      **2011** : 70                      **2012** : 70                      **2013** :70                      **2014** :70

**3. Associated Institute Type(s)**

- 1862 Extension

**4. Associated Knowledge Area(s)**

- 806 - Youth Development

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

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

## Description

Funding restraints, stable budget or lack of increase in funding, will not allow the program to increase the number of children being served in 4-H and youth development.

The District of Columbia is transforming with a plan for bringing in 100,000 new middle to high income residents resulting in changes in housing, transportation, education, and the government.

Community support is needed in the District of Columbia for financial literacy.

Changes in government policies and/or public priorities could alter the course of programming, negatively or positively.

## V(K). Planned Program (Evaluation Studies and Data Collection)

### 1. Evaluation Studies Planned

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

## Description

Pre and post tests will be given for the DC Reads program to determine participants' improvement at the end of the project. Each 4H- club leader and secretary will collect data (4H Secretary's Record Book) to be used in annual reporting of activities and events.

For the Parenting project, pre and post test, survey, telephone follow-ups, and one-on-one interviews will be conducted.

Surveys will be used in the financial literacy and cooperatives projects as well as pre and post tests to determine the increased awareness of participants.

A follow-up questionnaire will be issued to assess whether participants have used skills learned in the home maintenance and repair project.

### 2. Data Collection Methods

- Tests
- Observation
- Mail
- Telephone
- Structured
- On-Site

## Description

Instruments will be developed for on-site data collection.

Participants will be pre and post tested, survey will be conducted on the target population.

Participants will be evaluated on-site.