

2017 Southern University and A&M College and Louisiana State University Combined Research and Extension Plan of Work

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I. Plan Overview

1. Brief Summary about Plan Of Work

The mission of the Louisiana State University Agricultural Center (LSU AgCenter) and the Southern University Agricultural Research and Extension Center (SUAREC) is to enhance the quality of life for the people of Louisiana through basic and applied research and educational programs that address scientific, technological, social, economic and cultural needs. The **FY 2017-2021 Rolling Plan of Work (POW)** for the Agricultural Research and Extension Formula Funds submitted by LSU AgCenter and SUAREC covers the period October 1, **2017** through September 30, **2021**. This POW consists of one consolidated and integrated plan for both the research and extension programs at Southern University and Louisiana State University. In September 2015, LSU and SU met jointly to discuss our plan for conducting programs and evaluating those programs. The meeting consisted of program leaders/administrators, state specialists representing each content area, and state evaluation specialists from each institution. The plans presented here are an outgrowth of that joint planning meeting. Additionally, in February 2016 LSU and SU state food safety specialists, in coordination with evaluation specialists from both institutions, met together to review, amend, and finalize a joint evaluation plan. In order to address the needs of Louisiana citizens and the USDA/NIFA Priority Areas, emphasis will be placed on the following key program areas for the period:

1. **Global Food Security and Hunger** focusing on increasing the sustainability and profitability of Louisiana's animal, aquaculture and plant systems and food accessibility, affordability and policy;
2. **Childhood Obesity** focusing on increased consumption of fruits and vegetables, increasing time in physical activity and related child and adult nutrition issues;
3. **Climate Change** focusing on the state's forestry industry, wildlife conservation, wetland plants, water resources and waste management and their effects on the environment;
4. **Family and Human Development** focusing on issues affecting individuals and families;
5. **Food Safety** focusing on seafood, raw produce, and processed commodity- safety, certification programs and consumer food safety issues;
6. **Horticulture** focusing on consumer horticulture; landscape ornamentals and turf; and home, school and community gardens;
7. **Resilient Communities and Economies** place-based and people-based projects and programs focusing on economics and community development; disaster preparedness, mitigation and recovery; risk awareness; sustainable housing; agrosecurity; and agritourism;
8. **Sustainable Energy** focusing on feedstocks, alternative biofuels, and biomass processing; and
9. **Youth Development** focusing on providing positive youth development opportunities and activities for Louisiana youth.

Limited resources continue to present challenges for sustaining vital projects and programs. It is likely that funding constraints will continue to challenge statewide extension and research programs. This limitation in funding will necessitate the constant review of programs for relevance and program impact so that available resources can be appropriately allocated to assure the maximum return on investment expected from funding partners and clientele. Recent state funding constraints resulted in a retirement incentive that has greatly reduced our estimated FTEs and SYs. Any additional reduction in personnel and/or reduced operating and travel budgets will mean further consolidations and possible additional reductions in

research and extension programs. New approaches to conducting business will become the norm to meet the ever-changing needs of our stakeholders in the agriculture and natural resource communities as well as the youth and families served by our organization. Increased reliance on new technologies and tools such as social media; increased external funding and funding from local entities; and even greater dependence on trained volunteers will become increasingly important as attempts to deliver high quality programs continue.

As a special item of note, the reviewer of this plan will see a significant disparity between the number of FTEs planned for the 1862 institution in FY 2015 and FY 2016 for each planned program area. This is due to the fact that an error in projected FTE calculations was discovered this year by the financial office and this error has been corrected in the FY2016 plan to more accurately reflect the number of FTEs in each planned program area actually supported by federal dollars. The total amount of FTEs budgeted from all sources for this plan remains the same.

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

Year	Extension		Research	
	1862	1890	1862	1890
2017	265.0	38.0	120.0	38.5
2018	260.0	39.0	120.0	39.5
2019	260.0	39.0	120.0	39.5
2020	260.0	39.0	120.0	39.5
2021	260.0	39.0	120.0	39.5

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
- Combined External and Internal University Panel
- Expert Peer Review
- Other (Representative Stakeholders)

2. Brief Explanation

During the next five years, rigorous reviews of all programs will be critical as both the 1862 and 1890 land grant institutions continue to make every effort to ensure business is being conducted in the most effective and efficient way possible. Strategies for conducting program reviews on a scheduled basis are being identified and evaluated. Peer reviews for proposed

research activities of individual scientists will continue according to NIFA guidelines. Review comments will be solicited from peer scientists and state extension specialists. The comments and a synthesis of recommendations will be provided to the originating scientists or team of faculty by the administration. State-level commodity groups meet at least annually, and research and extension faculty will continue to make presentations and receive comments/suggestions regarding future research and educational programming needs from these key groups. External extension advisory councils continue to validate outreach programs. Internal groups made up of multi-disciplinary faculty provide review and focusing of statewide research and extension efforts. Both institutions will conduct program reviews to assess program effectiveness and establish program priorities.

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?

The business/strategic plan is the basic framework that provides strategic guidance for addressing critical needs of Louisiana stakeholders with regards to agriculture, environment and natural resources, youth, nutrition and health, families and communities. These plans which establish strategic direction for programming were created from information gathered from stakeholders through such means as parish advisory councils, needs assessment studies, commodity meetings and strategic planning sessions. Continued input from stakeholder-driven sessions will guide the development of additional strategies for implementation and modification of the business/strategic plan.

Both extension and research programs regarding critical issues of strategic importance are addressed after identification and prioritization by stakeholder groups, consideration by state-level extension specialists and research scientists, and input from parish and regional faculty. Following identification of the issues, extension and research personnel coordinate efforts in a systematic way to address the need. At this stage, parish-level extension agents then become the front-line educators, working through their stakeholder groups to plan, implement, and evaluate strategies. Logic models are being developed and constantly refined for all major program areas to insure that critical issues of strategic importance are appropriately addressed.

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

LSU & SU AgCenter Extension and Research programs are made available to all of the people of Louisiana. Extension agents are strategically located in areas such that their services are easily accessible to the under-served and under-represented stakeholders. Major emphasis is placed on publicizing all educational opportunities through multiple media outlets-- direct mail; telephone and text; electronic mail; radio; newspaper; and other mass media as well as through social media outlets such as Facebook, Twitter; YouTube and blogs.

Stakeholder advisory groups are key representatives that assist in identifying the needs of both under-served and target populations and designing programs to address those needs. A major component of that process is having individuals from a range of audiences, including representatives of the under-served and under-represented populations, as members of the advisory councils to actively participate in identifying specific needs.

This POW builds on expert recommendations as outlined in the following state plans/initiatives: the Louisiana Solutions to Poverty Initiative (Governor's Summit on Solutions to Poverty 2005); the Louisiana Vision 2020; and the Master Plan for Post-Secondary

Education (Louisiana). Historically, SUAREC has addressed problems confronting traditionally under-served and under-represented farmers, socially and economically disadvantaged families, and economically distressed rural and urban communities. Research and extension efforts are aimed at assisting these communities in becoming economically, environmentally, and socially sustainable. Within both institutions, programs were established to emphasize research and educational outreach aimed at improving the social and economic conditions of the under-served and under-represented citizens of the State. For example, community nutrition programs like Smart Bodies which are typically delivered through schools reach this target audience by bringing nutrition education to a common venue where all children and youth can be exposed to healthy eating concepts. Each institution is committed to strengthening individuals and families living in poverty, helping them reach a level of self-sufficiency and improving their health and overall well-being. The current economic crisis has further intensified the plight of the under-served and under-represented audiences. SUAREC & the LSU AgCenter will continue to provide research-based educational information to address the needs of this target group.

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

Planned programs will use common metrics to describe outputs; short term learning and research outcomes; medium term behavior changes; and longer term environmental, policy and societal outcomes based on the issue prompting the planned program. Additionally benefits to the wider public audience, beyond program participants, will be communicated as an impact of key programs. Descriptions of these outcomes and impacts by both extension and research may be expressed in terms of economic and environmental benefits, change in quality of life and/or public value in addition to the basic knowledge gained, attitudes changed, skills acquired or behavior changed.

To the extent possible, NIFA National Outcomes and Indicators will be used to describe the five priority program areas. For the other planned programs, performance indicators will be used to measure progress in accomplishing the objectives set by the plan of work. Regular surveys or evaluations will be conducted at all planned activities where feasible. Participants will be asked to indicate their needs and if they learned from the activities; what actions they plan to take or what actions they are taking; the potential benefits of the activities or actual social, economic, civic and/or environmental benefits. Traditional reports will be submitted to the state and federal governments and to other stakeholders. These reports will be compiled from periodic input submitted by the faculty and staff.

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

With limited resources, strategically planned projects and programs must be cost-effective and efficient. Scaling back on broad program efforts by focusing on key issues identified by stakeholders for which resources are available will ensure that only critical programs are developed and implemented. These programs are delineated in the LSU AgCenter's Business Plan and the SUAREC Strategic Plan.

It is more likely that program effectiveness and efficiency will be achieved when using a logic model to guide the development and evaluation of program efforts. By initiating the program planning process with a focus on the end result in mind, one is forced to "think backwards" to the various steps needed to accomplish this final goal. As one is required to "think backwards," one is much more deliberate about determining the requirements for reaching the goal, or solving the problem. This approach to programming invariably improves program effectiveness and/or efficiency. Programming in this manner by extension and research results in an efficient use of time for both faculty and volunteers, and also serves as a blueprint for repeating the program. A concerted effort will be made to strengthen the

evaluation elements of each program and the effective use of well-developed logic models dictates constant process evaluation to improve and expand program effectiveness and efficiency. Regular monitoring, on-site observation and focus groups will be employed to determine the extent to which program activities conducted met and addressed the critical needs of participants and how citizens benefited, solved problems, or realized improved quality of life by participating in the program activities.

The LSU AgCenter has established a 4-year base program evaluation schedule to insure that each statewide program is evaluated periodically. In an effort to present a more integrated report between the 1862 and 1890 institutions, we will explore using a common program evaluation process where feasible. Following is a list of the programs to be evaluated during this plan cycle:

- FY2017--Horses, aquaculture, soybeans/wheat, Healthy Communities & CYFAR, natural fisheries, wildlife, home gardens/consumer horticulture, human nutrition and food (adult), 4-H science literacy, disaster resilience--place-based and FSMA certification programs
- FY2018--Beef, pasture and forage, rice, commercial vegetables and fruit, water resources, coastal wetlands, Advanced Louisiana Master Gardener, physical activity, 4-H citizenship, community and economic development and food safety in ag production
- FY2019--Dairy, cotton, sugarcane, SNAP-ED, Master Farmer, Master Gardener, healthy eating, 4-H Youth Leadership, 4-H environmental education, risk appreciation, food safety certification programs
- FY2020--Poultry, forestry, feed grains, community gardens, forestry, commercial ornamentals & turf, Smart Bodies, sustainable energy, 4-H volunteer development, disaster resilience & sustainability-people-based and consumer food safety
- FY2021--Horses, aquaculture, soybeans/wheat, Healthy Communities & CYFAR, natural fisheries, wildlife, home gardens/consumer horticulture, human nutrition and food (adult), 4-H science literacy, disaster resilience--place-based and FSMA certification programs

The results from these evaluation studies will be used to prepare program impact reports for NIFA, state and local funders and stakeholders and to improve programs.

IV. Stakeholder Input

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

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

Brief explanation.

Multiple methods are used to seek input from all stakeholders in a fair and impartial manner to allow equal voice. Input is sought from both traditional and nontraditional audiences and the advisory committee and commodity groups are the major vehicles through which stakeholders provide input. While some individuals are specifically selected to provide input because of their role

in the related program community, others are recruited using a variety of strategies. Public meetings are announced using tools such as email, newspaper, radio, Websites, Twitter, YouTube and blogs and stakeholders are encouraged to attend as they are able. Accommodations are provided for individuals with special needs. Surveys are conducted at every planned workshop or training session to determine the extent to which program activities addressed the needs of participants. As an alternative, surveys are conducted to gather input from individuals not attending meetings. Stakeholders are engaged in the planning, implementation and evaluation of program efforts.

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 Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief explanation.

Various methods are used to identify individuals and groups to have input into the programming process. One-on-one contact is an often-used method by which extension and research identify individuals and groups which have interest in guiding programming. Advisory committee members are a great help in identifying other stakeholders. The key is ensuring that individual stakeholders represent a common subset of the total target population so that the needs of all can be identified and considered. A concerted effort allows various individuals to participate in the process by rotating advisory committee members while maintaining equal representation of the target audience on stakeholder committees.

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

Brief explanation.

Extension agents and program area specialists hold meetings regularly with various stakeholder groups to get their feedback regarding programs and activities. Meetings with non-traditional groups and individuals such as community leaders, parish officials, and other agency officials to seek input are also carried out both at the local and state levels. Formal and informal meetings are held. Faculty and staff participate in community activities where they can meet and interact with non-traditional groups and individuals throughout the state. Established relations with federal and state agencies, community groups, leaders, the faith community and individuals allows both research and extension personnel to utilize available resources at their disposal to interact and obtain important inputs.

Input is collected from stakeholder groups and individuals through the advisory committee process for all key programs, through external focus groups on various issues and by using various needs assessments and surveys. Advisory committee meetings with traditional and non-traditional stakeholder groups continue to be used most frequently. Surveys of both traditional and non-traditional stakeholder groups are used to gather such input. In recent years, the LSU AgCenter Listens initiative provided an open community-type forum to gather input from stakeholders. It is anticipated that a similar process will occur about every four years to update the LSU AgCenter's strategic plan. Utilizing Web-based survey tools has become the method-of-choice to collect input from stakeholders who cannot always participate in meetings. Occasionally focus group meetings and contact with key individuals in a community are used. The nominal group technique or some modified version thereof is typically used to identify and prioritize issues in advisory committee meetings.

3. A statement of how the input will be considered

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

Brief explanation.

The major means of utilizing stakeholder input is to assist faculty in identifying emerging issues and in evaluating ongoing programs. Stakeholder advisory groups help to redirect extension programs and research projects when necessary. Prioritization of issues needing attention is a major role of advisory committees. Input from the parish (county) level is often directed to one or more state level faculty for their consideration. Also, state-level advisory groups provide input directly to state specialists, and this information then goes back to the parish groups for their consideration. In the current economic climate, stakeholder input is also being used to redirect program resources from programs having less impact to those with greater impact or impact potential. While stakeholders are not typically included directly in the hiring process, their input is considered in identifying the need to fill key positions. Stakeholders are involved in an advisory capacity, frequently participate in the interview process and provide input to the position selection committees. Legislative and regulatory actions affecting the future of our stakeholders

is an important variable in the process of planning for future program focus and prioritization of faculty positions.

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Childhood Obesity
2	Climate Change (Natural Resources & the Environment)
3	Family and Human Development
4	Food Safety
5	Global Food Security and Hunger
6	Horticulture
7	Resilient Communities and Economies
8	Sustainable Energy
9	Youth Development

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Childhood Obesity

2. Brief summary about Planned Program

Obesity and overweight are the leading causes of preventable death in the U.S. Heart disease, diabetes, cancer, and stroke are all linked to this widespread problem. Participants in weight-related, research-based educational programs will improve their knowledge and thus be encouraged to change their behavior in both eating habits and physical activity routines. Research and Extension will continue their goal of reducing the number of clientele who are overweight or obese and those with other chronic disease risk factors. Group discussion, educational classes, workshops, and one-on-one intervention are all proven methods of dissemination of educational information.

Louisiana children and teens, along with their parents and caregivers will learn about the importance of healthy eating and physical activity. Much of the nutrition programming directed towards youth is conducted in a few key program areas using targeted curriculum. EFNEP and SNAP-Ed are major programs nutrition education/outreach programs in Louisiana. Youth will participate in educational programs such as Smart Bodies, which includes an innovative approach to teaching nutrition and physical activity by integrating the program into core curriculum academics to promote child wellness and healthy lifestyles. Parents will learn the importance of healthy eating habits in order to improve overall family health. "Let's Eat for the Health of It" is the primary nutrition education curriculum used by nutrition educators with both youth and adult audiences.

Additionally, youth gardening activities will be developed and youth participants will benefit from learning new techniques about gardening, which can help youth achieve the following: increase nutritional awareness, assist with lowering the obesity rate, save money in low-income households, increase leadership development skills and self-esteem among youth, increase environmental stewardship, and decrease health risks associated with diabetes and heart disease. Those who participate in these activities will benefit by being introduced to a variety of nutrition-related technologies, learning gardening skills, and increasing physical activity.

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
701	Nutrient Composition of Food	0%	10%	0%	10%
702	Requirements and Function of Nutrients and Other Food Components	0%	30%	55%	30%
703	Nutrition Education and Behavior	50%	10%	35%	10%
724	Healthy Lifestyle	50%	50%	10%	50%
	Total	100%	100%	100%	100%

V(C). Planned Program (Situation and Scope)**1. Situation and priorities**

According to the US Census Bureau, Louisiana ranks in the lower one-third among the 50 states for quality of life for its youth. The state is ranked number one in the number of youth living in poverty, single parent families, health problems, and parents without high school education. These factors place about 60 percent of Louisiana's youth at risk. There are some correlations between poverty and obesity. The prevalence of obesity has steadily increased over the past 35-40 years among children and youth in the U.S. Data from the National Health and Nutrition Examination Survey (NHANES) showed that obesity rates in the U.S. increased from approximately 4 percent in 1971-1974 to approximately 19 percent in 2003-2004 among children (6-11 years) and increased from approximately 6 percent to 17 percent during the same time period among adolescents (12-19 years).

Louisiana youth are among the most unhealthy in the nation; 36 percent of 10-17 year olds are overweight and 53 percent don't exercise regularly. (Louisiana Report Card on Physical Activity and Health for Children and Youth, 2010). Also according to the 2012 Louisiana Report Card on Physical Activity and Health for Children and Youth, Louisiana children and youth have received an F because they have a sedentary lifestyle with insufficient opportunities for physical activities. Research has shown that increased obesity leads to increased rates of other chronic diseases in later life such as diabetes, heart disease, and respiratory diseases, thus, increased future health costs.

A total of 9 bills have been passed since 2004 in the Louisiana Legislature relevant to physical activity or the prevention of obesity among children and youth. In 2005, Senate Bill No. 146/Act 331 of the Louisiana Legislature enacted a vending bill which limited certain food items sold during elementary and secondary schools in Louisiana. While there were also restrictions on beverages offered during the school day, House Bill No. 767/Act No. 306 of the 2009 Legislative Session amended Act 331 to further restrict beverages offered in public high schools.

The Nutrition and Health Program focuses on teaching healthy lifestyle strategies for choosing, preparing and eating healthy meals and increasing physical activity to children, adults and families. Participants will learn to follow healthy food guidelines as published in the USDA MyPlate and the USDA Dietary Guidelines for Americans. The rationale is to help Louisiana become a healthier state by reducing the incidence of illnesses associated with obesity.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Obesity is a complex problem requiring a multi-faceted approach. Achieving a healthy weight requires a lifelong commitment to change and adoption of recommended practices for healthy eating and physical activity and likely is influenced by intrauterine availability of nutrients. Environmental factors are not conducive to following a healthy lifestyle. Additional assumptions include:

- Resources and personnel will be available for continued research and extension effort on this topic.
- Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
- Expanded knowledge will result in behavior change.
- Present nutrition and health trends will continue.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is for youth to establish healthy eating and physical activity habits which lead to reduced incidence of childhood obesity:

- Increased physical activity time daily
- Increased consumption of fruits and vegetables
- Reduced BMI

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
2017	12.0	5.0	4.0	3.0
2018	12.0	5.0	4.0	3.0
2019	12.0	5.0	4.0	3.0
2020	12.0	5.0	4.0	3.0
2021	12.0	5.0	4.0	3.0

V(F). Planned Program (Activity)

1. Activity for the Program

The childhood obesity issue is addressed through a multi-disciplinary programming approach led by research and extension experts in nutrition, youth development, and school and community gardens.

- Smart Bodies is an innovative program of nutrition and physical activities that is integrated into core curriculum academics to promote child wellness. Smart Bodies consists of three components: Body Walk, the OrganWise Guys (OWG), and 2-Step in the Classroom. Body Walk students explore the brain, mouth, stomach, small intestines, heart, lungs, muscles, bones, and skin stopping at learning stations to participate in interactive activities focused on the effects that the food has on each organ. The OWG are fun characters that help children understand physiology and healthy behaviors through books, games, dolls and informational videos. The 2-Step in the Classroom program is a grade-specific educational tool that encourages short bouts of physical activity integrated with academic lessons. Parent newsletters are monthly themed and include tips for incorporating physical activity into family life and kid-friendly, low-cost recipes emphasizing fruits and vegetables.

- EFNEP and SNAP-Ed programs will continue to provide key education and outreach to limited resource youth and adults. The primary curriculum used will be "Let's Eat for the Health of It."

- The 4-H Healthy Living initiative emphasizes increased fruit and vegetable consumption and increased minutes of physical activity through a variety of delivery modes including the school garden program, the summer camp nutrition educational track, food and fitness boards at the state and local levels, and special interest workshops and day camps.

- Youth gardening activities will continue and youth participants will benefit from learning new techniques about gardening, which can help youth achieve the following: increase nutritional awareness through research and outreach, assist with lowering the obesity rate, save money in low-income households, increase leadership development skills and self-esteem among youth, increase environmental stewardship, and decrease health risks associated with diabetes and heart disease. Those who participate in these activities will be introduced to a variety of nutrition-related technology, gardening, and physical exercises. A well-trained group of adults to manage this effort will greatly impact its success.

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"> • Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations • Other 1 (Home visits) 	<ul style="list-style-type: none"> • Public Service Announcement • Billboards • Newsletters • TV Media Programs • Web sites other than eXtension • Other 1 (Radio, Newspaper, Print Media) • Other 2 (Blog & other Social Media)

3. Description of targeted audience

The target audience for the Smart Bodies program includes public and private elementary schools in Louisiana and their students in grades K-5 with emphasis on limited income youth. The program creates public value by indirectly influencing the schools' administrators, faculty, parents and siblings of participant students. Parents receive newsletters, while children are given Body Walk activity books, and the OrganWise Guys and 2-Step in the Classroom curricula are used by the classroom teacher. Parents have the opportunity to volunteer and participate in the Body Walk when it visits their child's school. The target audience for the 4-H Healthy Living program is youth in grades 4-12, parents, school administrators and faculty, and 4-H and Master Gardener volunteers. It is also necessary to train program staff and volunteers to ensure effective and efficient delivery of educational information. The target audience for EFNEP and SNAP-ED includes limited resource youth and adults.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
 - Direct Adult Contacts
 - Indirect Adult Contacts
 - Direct Youth Contacts
 - Indirect Youth Contact
 - Number of patents submitted
 - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of Web page views
 - Number of youth who participate in Smart Bodies Program
 - Number of elementary schools participating in Smart Bodies program
 - Number of research & extension outreach publications developed (in-house)
 - Number of educational program activities
 - Number of USDA published materials distributed
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Children practice healthy eating
2	Children engage in healthy levels of physical activity
3	Parents and caregivers learn the importance of healthy eating and physical activity.

Outcome # 1

1. Outcome Target

Children practice healthy eating

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Children engage in healthy levels of physical activity

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Parents and caregivers learn the importance of healthy eating and physical activity.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The economy may continue to impact greatly on planned program. As a result of going through the worst recession, many businesses may continue struggling to stay afloat. Deep reduction in state budgets and the threat of large cuts in Federal Budgets could result in massive layoffs which will add to the burden of unemployment and slow business growth. Also, declining state and local government revenues, if they continue, may force policy makers to make changes in programs, reduce appropriations, review policies, and shift priorities. Public policy changes, government regulations and competing priorities could affect the program either positively or negatively, depending on whether they favor or work against the program goals. Population changes and competing programmatic challenges have the potential of affecting the outcomes of the program.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Post program, before and after program, during program, and comparison studies will be employed. Other methods will be incorporated as appropriate and feasible. The main focus of evaluation will be on determining the level(s) to which program activities carried out met and addressed the critical needs of participants and how citizens benefited, solved problems, or realized improved quality of life by participating in the program. To ensure that evaluation is culturally contextual, stakeholders' involvement

and inputs will be strongly encouraged and utilized to establish priorities, goals and objectives consistent with state, regional and national issues based on the land-grant philosophy and mission. Evaluation will provide further inputs as to continuing with established priorities, goals and objectives or making changes to them. Additionally, performance indicators will be used to measure progress in accomplishing the program objectives.

LSU & SU AgCenter programs will be evaluated on a four-year cycle with 1/4 of the major base programs assessed annually. Areas in this initiative that are scheduled for evaluation are:

- FY2017-Chronic disease prevention
- FY2018-Physical activity
- FY2019-Healthy eating
- FY2020-Smart Bodies
- FY2021-Chronic disease prevention

A mixed methods design with appropriate data collection tools will be used to assess emerging needs, adoption and intention to adopt recommended practices, behavior change, use of LSU & SU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and to improve programs.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change (Natural Resources & the Environment)

2. Brief summary about Planned Program

A changing climate can present unique challenges to Louisiana's rich natural resources and water. The LSU & SU AgCenters' Research and Extension program strives to educate agricultural producers, foresters, wildlife managers and others about the effective management and preservation of the state's abundant natural resources and environment with regards to adaptive strategies that will be useful as the climate continues to change. Specific subject matter areas included in this initiative are:

- Crop variety and animal breed traits
- Animal waste handling
- Water resource management
- Nutrient management
- Native fisheries
- Louisiana Master Farmer Program
- Forest management and wood processing
- Louisiana Master Logger Program
- Wetland plants in fresh water and coastal environments
- Wildlife

The well-being of Louisiana's citizens depends on its resource-based economy therefore, it is vital that those natural assets be efficiently managed for both current and future generations. Effective resource management implies more than utilization. It also calls for adaptation and careful analysis of resource allocation decisions made today and their current and future positive and negative impacts.

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	10%	0%	1%	0%
111	Conservation and Efficient Use of Water	5%	0%	2%	0%
112	Watershed Protection and Management	35%	0%	10%	0%
123	Management and Sustainability of Forest Resources	20%	10%	17%	10%
124	Urban Forestry	0%	45%	4%	45%
125	Agroforestry	0%	0%	3%	0%
132	Weather and Climate	0%	10%	0%	10%
133	Pollution Prevention and Mitigation	10%	10%	8%	10%
134	Outdoor Recreation	0%	5%	1%	5%
135	Aquatic and Terrestrial Wildlife	5%	0%	12%	0%
205	Plant Management Systems	0%	5%	0%	5%
215	Biological Control of Pests Affecting Plants	5%	0%	2%	0%
402	Engineering Systems and Equipment	0%	0%	2%	0%
403	Waste Disposal, Recycling, and Reuse	5%	15%	12%	15%
405	Drainage and Irrigation Systems and Facilities	0%	0%	2%	0%
511	New and Improved Non-Food Products and Processes	0%	0%	6%	0%
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%	0%	4%	0%
604	Marketing and Distribution Practices	0%	0%	4%	0%
605	Natural Resource and Environmental Economics	5%	0%	10%	0%
	Total	100%	100%	100%	100%

V(C). Planned Program (Situation and Scope)**1. Situation and priorities**

Louisiana is a state of varied ecosystems and environments ranging from massive pine and oak forests to cypress swamps. Between the Gulf of Mexico and the numerous streams and rivers, the state has over 15,000 miles of coastland creating vast wetland areas. The state's forestry industry, representing 14 million acres and 150,000 landowners, contributes over \$3 billion in total value to the state's economy. Development of new knowledge and new technologies regarding adaptation to the effects of climate

change and the transfer of this information to clientele is critical. Identifying and promoting crop varieties and animal breeds with climate adaptive traits will result in greater production efficiency. Using tools such as climate relevant databases, monitoring systems and models can provide useful adaptive strategies.

Over 70 percent of Louisiana's waterways are included on EPA's 303d list as impaired and not suitable for fishing or swimming. Many of these impairments may be the result of non-point pollution emanating from watershed land use practices such as agriculture, forestry, individual sewage treatment, home landscape, construction practices and other urban and suburban conditions. Many streams continue to show improvement and are moving towards designated use but there is still much work to be done.

Animal waste handling and utilization presents a challenge to producers. More than 280,000 tons of animal and poultry waste are produced in Louisiana each year. Producers must handle this waste in an environmentally-friendly manner to minimize the potential negative effects waste can have on waterways. Animal wastes improperly applied to or stored on land can lead to runoff that can reduce surface and groundwater quality by introducing excessive levels of nutrients such as nitrogen and phosphorus, organic matter and pathogens into the environment.

Louisiana has the highest coastal erosion rate in the continental United States of almost 17 square miles per year according to the USGS. This equates to an area the size of a football field lost every hour and is caused by a variety of factors including climate change, human activities, and natural processes. The high rate of land loss threatens Louisiana industries that are essential to the entire nation including seafood, natural gas, petroleum, and global imports. The loss of native habitats for numerous wildlife and marine species is reaching a critical level. The need for certified coastal plant materials and planting methods to improve establishment were identified as quality control measures to respond to coastal erosion.

2. Scope of the Program

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

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

1. Assumptions made for the Program

- Resources and personnel will be available for continued research and extension effort on this topic.
- Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
 - Expanded knowledge will result in behavior change.
 - Present trends in climate change will continue.

2. Ultimate goal(s) of this Program

1. Identify and employ climate adaptive practices to protect and enhance Louisiana's rich natural environment for future generations.
2. Enhance the understanding of climate change and its impact on the natural resources through research, education, and outreach.
3. Enhance the understanding of the urban forest ecosystem, improve the management of urban forests and natural resources worldwide to ensure a more healthy environment.

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
2017	7.0	2.0	23.0	5.0
2018	7.0	2.0	22.0	4.0
2019	7.0	2.0	22.0	4.4
2020	7.0	2.0	22.0	4.4
2021	7.0	2.0	22.0	2.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include extension outreach using group and individual methods and mass media; social media tools; research experiments; result demonstrations; and field days incorporating the latest technologies. During the plan period, the following activities/interventions will be conducted:

- Communicate research results and other information with clients through extension personnel in the form of publications, conferences, workshops, field days, home/office visits, demonstrations and other educational resources.
 - Identify and promote the use of crop varieties and animal breeds with climate adaptive traits.
 - Educate consumers about the effects of climate change on the state's natural resources and mitigation strategies.
- Research the environmental benefits of urban forests, wetlands, carbon sequestration and the urban forest effects on air quality.
 - Research and quantify urban forest effects on UV exposure in relation to proper vegetation design.
 - Assist areas affected by past hurricanes and other natural disasters to rebuild their tree population.
- Collaborate, cooperate and partner with local, state and federal agencies, institutions, groups, private organizations/associations in seeking and delivering services to citizens.
 - Conduct both commercial and private pesticide applicator certification programs.
 - Promote and expand participation in the Louisiana Master Farmer Program.
 - Maintain and coordinate the natural resource extension Coastal Plants program.
 - Continue research activities conducted by the Center for Natural Resource Economics and Policy

2017 Southern University and A&M College and Louisiana State University Combined Research and Extension Plan of Work (CNREP).

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"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 (Site visits) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● TV Media Programs ● eXtension web sites ● Web sites other than eXtension ● Other 1 (Radio, Newspaper, Print Media) ● Other 2 (Blog & other Social Media)

3. Description of targeted audience

Target audiences include Louisiana farmers and livestock producers, coastal managers, wetlands stakeholders, commercial and recreational fishermen, hunters, forest land owners/ managers, community leaders/stakeholders, interested agencies and organizations and youth.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
 - Direct Adult Contacts
 - Indirect Adult Contacts
 - Direct Youth Contacts
 - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of Web page views
- Number of farmers completing the educational phase of the Louisiana Master Farmer program
- Number of private pesticide applicators receiving initial certification
- Number of commercial pesticide applicators receiving initial certification
- Number of private pesticide applicators recertified
- Number of commercial pesticide applicators recertified
- Number of research & extension outreach publications developed (in-house)
- Number of educational program activities
- Number of logging industry individuals completing base certification educational phase
- Number of tree care workers and arborists completing educational program for licensing
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Forest landowners adopt recommended practices for profitability and environmental sustainability
2	Adoption of recommended practices by farmers that lead to reduced non-point source pollution in Louisiana waterways.
3	Development of new knowledge and technologies

Outcome # 1

1. Outcome Target

Forest landowners adopt recommended practices for profitability and environmental sustainability

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 402 - Engineering Systems and Equipment
- 511 - New and Improved Non-Food Products and Processes
- 123 - Management and Sustainability of Forest Resources
- 403 - Waste Disposal, Recycling, and Reuse
- 133 - Pollution Prevention and Mitigation
- 111 - Conservation and Efficient Use of Water
- 215 - Biological Control of Pests Affecting Plants
- 605 - Natural Resource and Environmental Economics
- 102 - Soil, Plant, Water, Nutrient Relationships
- 604 - Marketing and Distribution Practices
- 112 - Watershed Protection and Management
- 134 - Outdoor Recreation
- 124 - Urban Forestry

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Adoption of recommended practices by farmers that lead to reduced non-point source pollution in Louisiana waterways.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 123 - Management and Sustainability of Forest Resources
- 112 - Watershed Protection and Management

- 403 - Waste Disposal, Recycling, and Reuse
- 111 - Conservation and Efficient Use of Water
- 102 - Soil, Plant, Water, Nutrient Relationships
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Development of new knowledge and technologies

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 123 - Management and Sustainability of Forest Resources
- 605 - Natural Resource and Environmental Economics
- 511 - New and Improved Non-Food Products and Processes
- 215 - Biological Control of Pests Affecting Plants
- 111 - Conservation and Efficient Use of Water
- 132 - Weather and Climate
- 135 - Aquatic and Terrestrial Wildlife
- 102 - Soil, Plant, Water, Nutrient Relationships
- 402 - Engineering Systems and Equipment
- 133 - Pollution Prevention and Mitigation
- 124 - Urban Forestry

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Lessons learned from the natural disasters especially Hurricanes Katrina and Rita of 2005 and Hurricane Gustav of 2008 remind us that we have to plan for external factors. Louisiana, due to its geographical location, is prone to both adverse and beneficial weather conditions which could affect program outcomes. Secondly, the state economy relies heavily on oil production. An increase or decrease in oil prices can increase or decrease the state's revenues respectively, thus impacting severely on budget appropriations. Additionally, federal dollars received as formula funds have remained "flat" for several years while state budget crisis have resulted in major reductions in state appropriations. An increase in the consumer price index will definitely reduce the purchasing power of these funds. Public policy changes, government regulations and competing priorities could affect the program either positively or negatively, depending on whether they favor or work against the program goals. Population changes and competing programmatic challenges have the potential of affecting the outcomes of the program.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Pre- and post-program, during program, and comparison studies will be conducted. Other methods will be incorporated as appropriate and feasible. The main focus of evaluation will determine the level(s) to which program activities met and addressed the critical needs of participants and how citizens benefited, solved problems, or realized improved quality of life. To ensure that evaluation is culturally competent, stakeholders' involvement and inputs will be strongly encouraged and utilized to establish priorities, goals and objectives consistent with state, regional and national issues based on the land-grant philosophy and mission. Evaluation will provide further inputs regarding continuation of established priorities, goals and objectives or making changes to them. Performance indicators will measure progress in accomplishing the program objectives. Evaluation studies will ensure that educational programs are available to all citizens of Louisiana and primarily to clients in the areas of food, agricultural and human sciences, and to urban and rural dwellers, youth, government officials, faith and community leaders, and families.

LSU & SU AgCenter programs will be evaluated on a four-year cycle with 1/4 of the major base programs assessed annually. Areas in this initiative that are scheduled for evaluation are:

FY2017-Natural Fisheries & Wildlife
FY2018-Water Resources & Coastal Wetlands
FY2019-Louisiana Master Farmer Program
FY2020-Forestry
FY2021-Natural Fisheries & Wildlife

Appropriate evaluation tools using a mixed method design are to gather input on emerging issues,

adoption and intention to adopt recommended practices, use of LSU AgCenter & SU Ag Center resources and basic demographic information. Resulting information is used to develop impact reports and programming efforts are adjusted accordingly.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Family and Human Development

2. Brief summary about Planned Program

Many Louisiana families are experiencing social and emotional crises because of current economic crisis, the oil spill tragedy (2010), and continuing disaster recovery (Hurricanes Katrina, Rita, and Gustav). Our target audiences are in need of tremendous assistance especially in the areas of money management, skills development, and family development. The family of today is like never before. Whereas, traditionally, the family consisted of a mother, father and children, today's families may consist of two parents of the same sex, headed by a single parent of either sex or headed by a grandparent. Workshops and educational classes are especially effective in working with this clientele. Educational programs which incorporate hands-on experiences are essential in delivering new knowledge and skills to families. Goals include self-sufficiency of clientele by learning the basics of money management and parenting skills, including early childhood education, and learning where and how to find reputable community resources. Strengthening families is also necessary in building needed support at all times, but particularly during stressful times.

To enhance family skills the following programs have been pilot-tested and are being implemented:

1. Emergency Preparedness Training - to provide disaster-ready training to families and community leaders;
2. Child Care Training - to assist child care providers, especially the socially and economically disadvantaged in obtaining the competency levels of the Child Development Associate (CDA) credentials;
3. Parent Preparing for Success Program (PPSP) - provides effective parenting classes for pregnant women and parents of children under age of 12 months
4. Second Chance 2 Recover- to provide pre-release classes to inmates who are within 3-6 months of being released from prison on parenting, anger management, self-esteem, resume writing, preparing for and attending successful job interviews, etc.

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
724	Healthy Lifestyle	0%	10%	0%	10%
801	Individual and Family Resource Management	0%	40%	0%	40%
802	Human Development and Family Well-Being	0%	40%	0%	40%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	0%	10%	0%	10%
	Total	0%	100%	0%	100%

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

1. Situation and priorities

The population of Louisiana was estimated to be 4,515,770 in 2009. The percent of children younger than age five was 7.1 (or 317,392). The number of children in Louisiana under 18 years is 1,128,942 which represents 25 percent of the population. Minority groups make up 37 percent of the overall population of Louisiana. The population of Louisiana, like other states, is shifting from rural to more urban areas and from a predominantly white to greater ethnic and racial diversity. Trends in family structure include grandparents raising grandchildren, stepfamilies, single-parent families, a decreasing number of married couples with children, an increase in households who are separated and/or cohabiting, a divorce rate of 50 percent and increasing numbers of single adults living with unmarried partners. Parenting is difficult and most parents have received limited training to prepare them for guiding a child's growth and development. Problems are compounded by dysfunctional family relationships, by limited economic resources, and inadequate social support and parenting education. Income plays a major factor in raising children. The number of women who are in the work force is on the rise.

2. Scope of the Program

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

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

1. Assumptions made for the Program

1. Level of funding will remain steady or increase.
2. Staffing may increase (additional funds may be available to replace staff who leave, and hire additional staff to execute programs)
3. Present trends will continue.

4. Clients will participate, respond, and adopt new/innovative techniques.

2. Ultimate goal(s) of this Program

1. Respond to the needs of diverse families and family structures by developing educational experiences that stimulate active learning, critical thinking and problem solving.
2. Educate parents, care givers and families on parenting practices and skills to create a safe and nurturing environment for children.
3. Promote among families the development of positive interpersonal relationships that enhance intellectual, social, emotional and physical development of family members.
4. Educate and assist families on how to set financial goals by practicing principles of prudent financial/resource management and planning.

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
2017	0.0	4.0	0.0	3.0
2018	0.0	4.0	0.0	3.0
2019	0.0	4.0	0.0	3.0
2020	0.0	4.0	0.0	3.0
2021	0.0	4.0	0.0	3.0

V(F). Planned Program (Activity)

1. Activity for the Program

The following activities/intervention will be conducted:

1. Extension and Research faculty will work cooperatively to develop and disseminate educational materials devoted to helping the family set goals and manage limited resources.
2. Community Volunteers (advisory committee, Community organizations, etc.) will be organized to help disseminate information, increase awareness and implement programs.
3. Consumer curriculum will be designed to support objectives on financial planning and management.
4. Partnerships with banks and other financial agencies will be solicited and their expertise utilized.
5. Research results and other information will be communicated to customers through extension personnel in the form of publications, conferences, workshops, home/office visits, demonstrations and other educational resources.
6. Collaborate, cooperate and partner with local, state and federal agencies, institutions, groups, private organizations/associations in seeking and delivering services to citizens.
7. Others include: Nutrition Classes, Child Care Classes, Second Chance 2-Recover workshops, Parenting Workshops, Parish and home visits, Demonstrations, Training sessions for adults and children,

etc.

8. Implement consumer curriculum
9. Conduct workshops/training to promote positive home environments and encourage community involvement
10. Promote physical fitness & healthy eating
11. Conduct health fairs (in collaboration with Nutrition and Health Program staff, communities, health organizations, schools, etc)
12. Compile and disseminate resource directory (pamphlet)
13. Create additional educational links on the SU Ag Center Homepage
14. Conduct educational trainings on emergency preparedness
15. Conduct educational trainings to help those incarcerated stay connected to their families, prepare to re-enter society and find gainful employment upon release.

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"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 (Home visits) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Billboards ● Newsletters ● TV Media Programs ● Web sites other than eXtension ● Other 1 (Radio, Newspaper, Print Media) ● Other 2 (Blog & other Social Media)

3. Description of targeted audience

There are large numbers of low income and limited resource families in Louisiana who reside in the target areas that the SU Ag Center serves. Most of these families live below the poverty level. They lack knowledge, information, and/or skills to utilize existing resources to improve their parenting and child care skills, family nurturing, learning, resource management, and quality of life. Children and adolescent who are placed at risk and those that are potentially at risk will benefit from the services provided by the planned program.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
 - Direct Adult Contacts
 - Indirect Adult Contacts
 - Direct Youth Contacts
 - Indirect Youth Contact
 - Number of patents submitted
 - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of research & extension outreach publications developed (in-house)
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Clients increase knowledge/skills or gained awareness about Family and Human development issues
2	Clients change behavior, attitude or lifestyle

Outcome # 1

1. Outcome Target

Clients increase knowledge/skills or gained awareness about Family and Human development issues

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
- 802 - Human Development and Family Well-Being
- 724 - Healthy Lifestyle
- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Clients change behavior, attitude or lifestyle

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 724 - Healthy Lifestyle
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The economy may continue to impact greatly on planned program. As a result of going through the worst recession, many businesses may continue to struggle to stay afloat. Deep reduction in state budgets and the threat of large cuts in Federal Budgets could result in massive layoffs which will add to the burden of unemployment and slow business growth. Also, declining state and local government revenues, if they continue, may force policy makers to make changes in programs, reduce appropriations, review policies, and shift priorities. Public policy changes, government regulations and competing priorities could affect the program either positively or negatively, depending on whether they favor or work against the program goals. Population changes and competing programmatic challenges have the potential of affecting the outcomes of the program.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Post program, before and after program, during program, and comparison studies will be employed. Other methods will be incorporated as appropriate and feasible. The main focus of evaluation will be on determining the level(s) to which program activities carried out met and addressed the critical needs of participants and how citizens benefited, solved problems, or realized improved quality of life by participating in the program. To ensure that evaluation is culturally contextual, stakeholders' involvement and inputs have been strongly encouraged and utilized to establish priorities, goals and objectives consistent with state, regional and national issues based on the land-grant philosophy and mission. Evaluation will provide further inputs as to continuing with established priorities, goals and objectives or making changes to them. Additionally, performance indicators will be used to measure progress in accomplishing the objectives set by the Center.

LSU & SU AgCenter programs will be evaluated on a four-year cycle with 1/4 of the major base programs assessed annually. Areas in this initiative that are scheduled for evaluation are:

FY2017-Child Care
FY2018-Emergency Preparedness
FY2019-Parenting
FY2020-Second Chance 2 Recover/Healthy Lifestyles
FY2021-Child Care

A mixed methods design with appropriate data collection tools will be used to assess emerging needs, adoption and intention to adopt recommended practices, behavior change, use of LSU & SU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and to improve programs.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Food Safety

2. Brief summary about Planned Program

Food-related diseases affect tens of millions of people and kill thousands. Tracking single cases of foodborne illness and investigating outbreaks are critical public health functions in which Center for Disease Control (CDC) is deeply involved. The Food Safety Modernization Act (FSMA) was enacted to insure that the U. S. food supply is safe and shifts the focus from responding to contamination to preventing it. The LSU & SU AgCenters' Extension and Research teams will work with producers to implement on-farm strategies to prevent contamination of fresh fruits and vegetables. In addition, faculty and staff will engage consumers to increase their knowledge of proper food selection, storage and preparation so that in-home contamination can be reduced. This work is particularly important to low-income families. Additionally, education of food producers, small food businesses, food handlers and processors is critical to insuring a safe and secure food supply. The LSU AgCenter also plays a key role in providing training necessary for food safety certifications such as HACCP and will provide additional trainings to satisfy the FSMA requirements.

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
502	New and Improved Food Products	17%	10%	17%	10%
702	Requirements and Function of Nutrients and Other Food Components	0%	10%	0%	10%
703	Nutrition Education and Behavior	0%	20%	0%	20%
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	29%	10%	29%	10%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	43%	20%	43%	20%
723	Hazards to Human Health and Safety	11%	0%	11%	0%
724	Healthy Lifestyle	0%	30%	0%	30%
	Total	100%	100%	100%	100%

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

1. Situation and priorities

Changes in food production and distribution have increased the scope of foodborne illness outbreaks resulting in national and multi-national occurrences. Additionally, Louisiana is subjected to violent weather events due to its close proximity to the coast. These events create power outages and flooding. This leads to increased opportunities for foodborne illnesses especially in Louisiana's hot humid climate. Louisiana's hot humid climate is the perfect environment for food contamination to occur. The state also holds many warm weather festivals which increases the likelihood of food safety issues. As a way of life, Louisiana citizens participate in many outdoor events where foods are pre-cooked, kept for a longer period and served outside. Sometimes, there are not enough facilities to keep such foods hot or cold (as the case may be) until all is consumed.

The CDC estimates that each year roughly 1 out of 6 Americans (or 48 million people) gets sick, 128,000 are hospitalized, and 3,000 die from foodborne diseases. The 2011 estimates provide the most accurate picture of which foodborne bacteria, viruses, microbes ("pathogens") are causing the most illnesses in the United States, as well as estimating the number of foodborne illnesses without a known cause. (CDC Homepage) Increasingly, fresh fruit and vegetable products have been implicated as the source for foodborne pathogens causing foodborne illnesses. This may be the result of increased consumption of fresh produce coupled with better understanding of pathogens and their capabilities to cause illness. Outbreaks due to Salmonella and E-Coli contamination are also widely prevalent. These foodborne outbreaks have induced the FDA to look more closely at fresh produce processing. With the enactment of the Food Safety Modernization Act, focus has shifted from responding to contamination to preventing it. This has led to the development of recommendations for some commodity producers, that precautions be taken in the fields and during post-harvest processing and handling to prevent pathogen contamination.

In a 2012 report from the Louisiana Department of Health and Hospitals by Dr. Roule Ratar, it was

estimated that 20-30 outbreaks of foodborne illnesses occur each year. These outbreaks result in approximately 163,357 individuals cases of foodborne illness with 56% of those being viral, 41% bacterial and the remaining 3% parasitic. Estimates are that 942 hospitalizations resulted from foodborne-related illnesses, 64% of which were from bacterial pathogens; 27% from viral pathogens and 9% from parasitic pathogens. Twenty-three (23) deaths in the state were attributed to foodborne illness. Due to the state's passive surveillance reporting system for foodborne illnesses, these numbers are probably low due to unreported foodborne illnesses.

Louisiana also has a large proportion of susceptible populations such as the elderly and economically challenged individuals: these individuals are least likely to seek care when experiencing foodborne illnesses and thus more likely to have more serious reactions to food poisoning. Research indicates that handling food correctly can prevent 90 to 95% of foodborne illnesses.

Commercial processors of seafood, meat, poultry, and juice are required to be certified in principles of HACCP (Hazard Analysis and Critical Control Point). Companies, such as Wal Mart, are requiring HACCP. Small companies and start-ups need help in meeting these requirements. Oyster companies that use a post-harvest treatment are required by the FDA to validate if their treatments adequately reduced levels of *Vibrio vulnificus* in oysters. Seafood safety concerns, exacerbated throughout the U.S. following the 2010 Gulf oil spill, still exist. In the current FSMA proposed Produce Safety Rule §112.22(c), it requires "at least one supervisor or responsible party from the farm to successfully complete food safety training at least equivalent to that received under the standardized curriculum recognized as adequate by the Food and Drug Administration". The FSMA proposed Preventive Control of Human Food Rule also required a "qualified individual" that must be trained to develop and monitor a food safety plan.

2. Scope of the Program

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

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

1. Assumptions made for the Program

- Resources and personnel will be available for continued research and extension effort on this topic.
- Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
- Expanded knowledge will result in behavior change.
- Present trends in food safety will continue.

2. Ultimate goal(s) of this Program

The goals of this program are to:

1. Increase awareness, knowledge and/or skills regarding safe food production, handling and preparation by both commercial and non-commercial entities.

2. Educate food growers, processors and handlers about ways to minimize food safety threats related to Louisiana-produced food products.

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
2017	1.0	4.0	3.0	6.0
2018	1.0	4.0	3.0	6.0
2019	1.0	4.0	3.0	6.0
2020	1.0	4.0	3.0	6.0
2021	1.0	4.0	3.0	6.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension and research activities including result demonstrations, workshops, classes, certification programs, studies and effective use of a variety of media sources to address food safety-related issues will be used to teach producers, consumers, handlers and processors about strategies for keeping food safe. Specific certification trainings will include Good Agricultural Practices (GAPs) and Good Handling Practices (GHPs), trainings that satisfy FSMA requirements, Sanitation Control Protocol (SCP), Seafood HACCP; Meat and Poultry HACCP; Vacuum Packaging HACCP, Better Process Control School (BPCS) and ServSafe.

Specific research and extension activities planned during this planning cycle:

- Develop science-based food safety educational outreach programs in the form of GAPs/GHPs to provide Louisiana growers with the tools and resources they will need to make knowledgeable and profitable management decisions pertaining to the production of safe, healthy and nutritious fruits, vegetables and nuts.
 - Collaborate and conduct research on food safety and prevalent foodborne diseases;
 - Promote use of food safety, safe school food nutrition curriculums; and health tips to ensure food safety during school activities;
 - Create awareness and generate knowledge in Louisiana residents about safe food handling practices through workshops, classes, demonstrations, home/office visits, publications, fact sheets, newsletters, and research reports and by using Web and other social media tools;
 - Collaborate, cooperate and partner with local, state and federal agencies, institutions, groups, private organizations/associations in seeking and delivering food safety information to residents;
 - When funds are available, hire additional experienced personnel and build capacity to respond to clientele needs regarding food safety;
 - Conduct certification trainings that satisfy FSMA requirements, Sanitation Control Protocol (SCP), Seafood HACCP; Meat and Poultry HACCP; Vacuum Packaging HACCP, Better Process Control School (BPCS) and ServSafe.
 - Research and disseminate research-based information on Pre- and Post-Harvesting (Animal and

Plant) best practices as recognized by FSMA.

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"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 (Home visits) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites other than eXtension ● Other 1 (Radio, Newspaper, Print Media) ● Other 2 (Blog & other Social Media)

3. Description of targeted audience

Growers, consumers, commercial seafood processors, children and food handlers including restaurateurs and food vendors will be the target audience of this planned program. There is a large number of low income and limited resource families in Louisiana. These families typically lack the knowledge, information, and skills to utilize existing resources to improve their diet and ensure food safety. Children, the elderly and individuals with various health limitations are particularly vulnerable to food borne illnesses. Particular attention will be focused on growers and food producers and processors as the primary means of reducing the prevalence of food borne illnesses originating during the production, packing and processing phases.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
 - Direct Adult Contacts
 - Indirect Adult Contacts
 - Direct Youth Contacts
 - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of individuals certified through food safety programs
 - Number of research & extension outreach publications developed (in-house)
 - Number of Web page views
 - Number of educational program activities
 - Number of USDA published materials distributed
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase adoption of recommended safe food handling practices at the individual, family and community levels.
2	Increase number of viable technologies to improve food safety
3	Increase adoption of recommended safe food handling practices at the production and supply system levels.

Outcome # 1

1. Outcome Target

Increase adoption of recommended safe food handling practices at the individual, family and community levels.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 723 - Hazards to Human Health and Safety
- 724 - Healthy Lifestyle
- 703 - Nutrition Education and Behavior
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
- 502 - New and Improved Food Products

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Increase number of viable technologies to improve food safety

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 502 - New and Improved Food Products
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 723 - Hazards to Human Health and Safety
- 702 - Requirements and Function of Nutrients and Other Food Components
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Increase adoption of recommended safe food handling practices at the production and supply system levels.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 502 - New and Improved Food Products
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
- 723 - Hazards to Human Health and Safety

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The economy may continue to impact greatly on planned programs. As a result of going through the worst recession, many businesses may continue to struggle to remain profitable. A deep reduction in state budgets and the threat of large cuts in Federal Budgets could result in massive layoffs which will add to the burden of unemployment and slow business growth. Also, declining state and local government revenues, if they continue, may force policy makers to make changes in programs, reduce appropriations, review policies, and shift priorities. Public policy changes, government regulations and

competing priorities could affect the program either positively or negatively, depending on whether they favor or work against the program goals. Population changes and competing programmatic challenges have the potential of affecting the outcomes of the program.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Pre- and post-program, during program, and comparison studies will be conducted. Other methods will be incorporated as appropriate and feasible. The main focus of evaluation will be on determining the level(s) to which program activities carried out met and addressed the critical needs of participants and how citizens benefited, solved problems, or realized improved quality of life by participating in the program. To ensure that evaluation is culturally competent, stakeholders' involvement and inputs will continue to be strongly encouraged and utilized to establish priorities, goals and objectives consistent with state, regional and national issues based on the land-grant philosophy and mission. Evaluation will provide further inputs regarding continuation of established priorities, goals and objectives or making changes to them. Performance indicators will be used to measure progress in accomplishing the program objectives. Evaluation studies will ensure that educational programs implemented are available and useful to all citizens of Louisiana and primarily to clients in the areas of food, agricultural and human sciences, and to urban and rural dwellers, youth, government officials, faith and community leaders, and families.

LSU & SU AgCenter programs will be evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. The components of the Food Safety program are scheduled for evaluation as follows:

- FY 2017--FSMA Certification Programs
- FY 2018--Food Safety in agricultural production
- FY 2019--Food Safety Certification Programs such as HACCP
- FY 2020--Consumer Food Safety
- FY 2021--FSMA Certification Programs

An appropriate evaluation design will be used to gather input on emerging issues, adoption and intention to adopt recommended practices, use of resources and basic demographic information of clients. Resulting information will be used to develop impact reports and programming efforts are adjusted accordingly.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Global Food Security and Hunger

2. Brief summary about Planned Program

Teaching field crop, livestock and aquaculture producers in Louisiana to use emerging technologies and increase sustainability of production through higher efficiency and greater outputs is the primary goal of the LSU & SU Ag Centers' plant and animal enterprises programs addressing Global Food Security and Hunger. Targeted in this program are the growers/producers and agri-businesses associated with the production of food and fiber in the state, primarily those in the major field crops areas--sugarcane, soybeans, rice, cotton, feed grains, and sweet potatoes and the primary animal enterprises--beef and dairy cattle, goats, poultry, swine, and aquaculture and fisheries. Although not a food commodity, the equine industry is a major player in the livestock industry in the state and, as such, is included in the animal enterprises research and extension effort. Other areas of research and information dissemination include commercial vegetable and fruit production, organic farming and processing, alternative crop production, value-added products, processing and marketing.

Food accessibility and affordability is a major component of the educational effort in the Global Food Security and Hunger area in Louisiana. The SNAP-ED program provides the primary mechanism for delivering this component of this program. Using a systems-based approach, this program targets the youth in the state that often do not have access to healthy foods for regular consumption. The overall goal is to create an environment of healthy, hunger-free kids. Sixteen (16) paraprofessionals support the work of extension faculty in delivering this program.

The LSU & SU AgCenters strive to continually improve producers' adoption of recommended practices which contribute to the sustainability and economic viability of the industry. Clientele are primarily reached through producer meetings, result demonstrations, farm visits, field days, and agricultural leadership sessions. Using these methods and through the use of various Web-based media and social media tools such as blogs, Twitter and Facebook, targeted audiences learn about recommended best practices regarding plant and animal production, quality and health.

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	5%	10%	5%	10%
135	Aquatic and Terrestrial Wildlife	5%	0%	5%	0%
204	Plant Product Quality and Utility (Preharvest)	5%	0%	5%	0%
205	Plant Management Systems	20%	20%	10%	20%
211	Insects, Mites, and Other Arthropods Affecting Plants	5%	0%	5%	0%
212	Diseases and Nematodes Affecting Plants	0%	0%	5%	0%
213	Weeds Affecting Plants	5%	0%	5%	0%
216	Integrated Pest Management Systems	5%	0%	2%	0%
301	Reproductive Performance of Animals	0%	10%	10%	10%
302	Nutrient Utilization in Animals	5%	20%	10%	20%
303	Genetic Improvement of Animals	0%	0%	4%	0%
304	Animal Genome	0%	0%	2%	0%
305	Animal Physiological Processes	0%	0%	4%	0%
307	Animal Management Systems	20%	30%	10%	30%
308	Improved Animal Products (Before Harvest)	5%	0%	5%	0%
311	Animal Diseases	5%	0%	5%	0%
313	Internal Parasites in Animals	5%	5%	4%	5%
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%	0%	2%	0%
601	Economics of Agricultural Production and Farm Management	5%	5%	2%	5%
704	Nutrition and Hunger in the Population	5%	0%	0%	0%
	Total	100%	100%	100%	100%

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

1. Situation and priorities

Global food security and eradication of hunger are major priority areas of focus for the both the LSU & SU Ag Centers. Working to ensure sustainable animal and plant productivity and profitability are of paramount importance to the agricultural sector of Louisiana. According to USDA/ERS, about 50.1 million

people (in 20.6% of US households with children) lived in food insecure households in 2011; about 33 million are adults (14.4 percent of all adults) and 17 million are children (22.5 percent of all children). Louisiana is ranked 45th in food insecurity with about 12 percent of its citizens living in food insecure households.

A safe and secure food supply can be supported by a healthy animal and crop production system. A wide variation exists in agricultural productivity and profitability in this state. The average farm size in Louisiana is 269 acres. Farms vary in size from large commercial operations to small-scale operations. The latter are faced with the greatest challenge to generate sufficient income. According to the 2007 Census of Agriculture, of the 30,106 farms in the state, 24,022 (or about 80 percent) reported sales below \$25,000 annually. Economic opportunities exist for small agricultural producers who adopt animal and crop enterprises. Thus, there is need for research on production and management systems pertaining to animal and plant enterprises of all sizes.

The LSU & SU Ag Centers serve a very diverse food and fiber sector in the state of Louisiana. With the total value of plant-based enterprises in the state, including value added, exceeding \$7.3 billion in 2013, the importance of agriculture as an economic driver in the state is evident. This is particularly evident in regions of the state in which production agriculture, and more specifically, row crop agriculture, is the single largest segment of those rural economies. To ensure the economic well-being of the agricultural industry and its ability to continue to be a major contributor to the state's economy, the LSU & SU AgCenters provide a variety of educational opportunities and research based information to row-crop operations to assist them in making better production, environmental, and financial decisions. Additionally, the LSU & SU Ag Centers continue to lead the way in developing best management practices to ensure the environmental impact from production agriculture is minimized. Educational opportunities and information in the areas of financial management, risk management, and marketing are also conducted.

Gross farm income in 2013 for all animal enterprises was \$2.1 billion with a value added of \$1.2 billion, contributing \$3.3 billion to the Louisiana economy. The total value of beef cattle production in Louisiana was \$663.2 million in 2013; and the total economic contribution from dairying in Louisiana, including milk sales, animal sales and additional processing, was \$131.4 million. The gross farm value for all poultry production in Louisiana was slightly over \$1 billion during the past year. The value added from poultry production to the Louisiana economy was estimated to be \$991 million, making the total value of poultry production in Louisiana over \$2 billion in 2013.

Poor economic conditions threaten sustainability of many Louisiana livestock operations. Rising input costs, global competition and increased regulations continue to strain plant, animal and aquaculture enterprises. The state's hot, humid climate creates challenges of heat-stress, high parasite populations, poor reproduction, disease pressures, impaired water quality/quantity and low forage quality. Assessing crop and animal adaptability and designing effective production systems that manage the relationships among genetics, physiology, nutrition, and environment are key concerns. Improving the safety, quality, functionality and consumer acceptance of animal products is an ongoing concern. Sustained plant, animal and aquaculture production will depend upon enhanced profitability, diversification and improved production efficiencies.

2. Scope of the Program

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

- Multistate Extension
- Integrated Research and Extension

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

1. Assumptions made for the Program

- Resources and personnel will be available for continued research and extension effort on this topic.
- Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
- Expanded knowledge will result in behavioral change.
- Present trends in global food security and hunger will continue.
- Present economic crisis will be reversed.
- Provisions in the Farm Bill remain the same.

2. Ultimate goal(s) of this Program

The ultimate goal of the program is to continually improve adoption rates of recommended practices which contribute to the sustainability and profitability of safe and consistent food and fiber production and animal enterprises in Louisiana. In achieving this goal, secondary goals include promoting environmental stewardship, reducing hunger among Louisiana residents and ensuring food accessibility, and enhancing the management and leadership skills of agricultural producers.

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
2017	22.0	7.0	62.0	14.0
2018	22.0	7.0	62.0	14.0
2019	22.0	7.0	62.0	14.0
2020	22.0	7.0	62.0	14.0
2021	22.0	7.0	62.0	14.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include research and extension programs directed towards row crop, fruit and vegetable production; and animal and aquaculture production. LSU AgCenter programs will address yield, cultural practices, and pest management resulting in development of new varieties and integrated pest management strategies for Louisiana's major row crops. SU Ag Center will continue to address immediate and long term needs of small and limited resource farmers. Specific activities include:

1. Design and conduct educational programs and research projects on animal and plant enterprises, to

address yield, cultural practices and pest management, new varieties, and animal health to producers and potential producers;

2. Conduct workshops, farm visits, livestock shows, demonstrations, field tours, grower meetings, training sessions;
3. Maintain modernized facilities and acquire additional land for research and extension programs;
4. Work with internal and external communication channels as well as traditional and social media to disseminate important commodity production information to clients and stakeholders.
5. Educate limited resource audiences about the availability of safe and healthy food supplies offered through farmers markets, local grocery stores, and school and community gardens.
6. Collaborate, cooperate and partner with local, state and federal agencies, institutions, groups, private organizations/associations.
7. Enhance marketing opportunities in traditional and alternative outlets such as farmer's markets, community supported agriculture (CSA), and other outlets.

Teaching methods will include group and individual methods; mass media; applied research studies; result demonstrations; and field days, which incorporate the latest technological advances and use of social media. Research outputs are measured through scientific presentations at field days, local and national meetings and publications.

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"> • Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations • Other 1 (Farm/Home Visits) • Other 2 (Producer mentoring) 	<ul style="list-style-type: none"> • Public Service Announcement • Newsletters • TV Media Programs • eXtension web sites • Web sites other than eXtension • Other 1 (Radio, Newspaper, Print Media) • Other 2 (Blog & other Social Media)

3. Description of targeted audience

The target audience for this program includes approximately 6,000 growers with 7.9 million acres of land in production and related agribusinesses:

- Cotton--282 producers with 164,000 acres in production who produced 196 million pounds of cotton.
- Feed grains--1,700 producers with 495,000 acres in production who produced 81 million bushels of feed grains.
- Rice--1,040 producers with 449,000 acres in production who produced 3.4 billion pounds of rice.
- Soybeans--2,500 producers with 1.4 million acres in production who produced 80 million bushels of soybeans
- Sugarcane--450 producers with 412,000 acres in production who produced 1.5 million tons (2.9 billion pounds) of raw sugar and 88 million gallons of molasses.
- Sweet potatoes--45 producers with 8,500 acres in production who produced 4.1 million bushels of sweet

potatoes.

•Wheat--440 producers with 150,000 acres in production who produced 10 million bushels of wheat.

It also includes livestock and poultry producers, crawfish farmers and consumer groups related to enhancing the value of animal commodities. In addition, there are 7,000 producers with 33,000 acres of land in commercial production and an estimated 476,000 home gardens providing fresh vegetables, fruits and nuts.

The SU Ag Center specifically targets small producers, limited resource producers, socially and economically disadvantaged individuals, the underrepresented, the underserved, women, and minorities. Others are youth 13 - 18 years, policy makers, community leaders/stakeholders, interested agencies and organizations.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
 - Direct Adult Contacts
 - Indirect Adult Contacts
 - Direct Youth Contacts
 - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of Web page views
- Number of research & extension outreach publications developed (in-house)
- Number of field demonstrations
- Number of grower field days
- Number of educational program activities

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Increased awareness, knowledge/skills or changed attitudes regarding recommended animal and animal production practices.
2	Enhanced capacity of a sustainable global food system including new/improved animals, technologies and management systems
3	Increased awareness, knowledge/skills or changed attitudes regarding recommended plant and plant production practices.
4	Enhanced capacity of a sustainable global food system including new/improved plant, technologies and management systems
5	Individuals in vulnerable populations have access to healthy, affordable foods.

Outcome # 1

1. Outcome Target

Increased awareness, knowledge/skills or changed attitudes regarding recommended animal and animal production practices.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 216 - Integrated Pest Management Systems
- 311 - Animal Diseases
- 308 - Improved Animal Products (Before Harvest)
- 302 - Nutrient Utilization in Animals
- 314 - Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
- 135 - Aquatic and Terrestrial Wildlife
- 301 - Reproductive Performance of Animals
- 307 - Animal Management Systems
- 313 - Internal Parasites in Animals
- 304 - Animal Genome
- 305 - Animal Physiological Processes
- 303 - Genetic Improvement of Animals
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Enhanced capacity of a sustainable global food system including new/improved animals, technologies and management systems

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

- 308 - Improved Animal Products (Before Harvest)
- 313 - Internal Parasites in Animals
- 305 - Animal Physiological Processes
- 311 - Animal Diseases
- 307 - Animal Management Systems
- 314 - Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
- 304 - Animal Genome
- 135 - Aquatic and Terrestrial Wildlife
- 301 - Reproductive Performance of Animals
- 216 - Integrated Pest Management Systems
- 303 - Genetic Improvement of Animals
- 302 - Nutrient Utilization in Animals

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Increased awareness, knowledge/skills or changed attitudes regarding recommended plant and plant production practices.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 102 - Soil, Plant, Water, Nutrient Relationships
- 212 - Diseases and Nematodes Affecting Plants
- 205 - Plant Management Systems
- 204 - Plant Product Quality and Utility (Preharvest)
- 213 - Weeds Affecting Plants
- 601 - Economics of Agricultural Production and Farm Management
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 4

1. Outcome Target

Enhanced capacity of a sustainable global food system including new/improved plant, technologies and management systems

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 216 - Integrated Pest Management Systems
- 205 - Plant Management Systems
- 212 - Diseases and Nematodes Affecting Plants
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 601 - Economics of Agricultural Production and Farm Management
- 102 - Soil, Plant, Water, Nutrient Relationships
- 213 - Weeds Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 5

1. Outcome Target

Individuals in vulnerable populations have access to healthy, affordable foods.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 704 - Nutrition and Hunger in the Population

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Lessons from natural disasters especially Hurricanes Katrina and Rita of 2005 and Gustav of 2008 remind us to plan for external factors. Louisiana, due to its geographical location, is prone to both adverse and beneficial weather conditions which could affect program outcomes. Secondly, the state economy relies heavily on oil production. Deviation in oil prices could increase or decrease the state's revenues respectively, thus impacting severely on budget appropriations. Additionally, federal dollars received via formula funds have been "flat" for several years and state budget crises have caused major reductions in state appropriations. An increase in the consumer price index will further reduce the purchasing power of these funds. Public policy changes, government regulations and competing priorities could affect the program either positively or negatively, depending on whether they favor or work against the program goals. Population changes and competing programmatic challenges have the potential of affecting the program outcomes.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Pre- and post-program, during program, and comparison studies will be conducted. Other methods will be incorporated as appropriate and feasible. The main focus of evaluation will be on determining the level(s) to which program activities met and addressed the critical needs of participants and how citizens benefited, solved problems, or realized improved quality of life. To ensure that evaluation is culturally competent, stakeholders' involvement and inputs will continue to be strongly encouraged and utilized to establish priorities, goals and objectives consistent with state, regional and national issues based on the land-grant philosophy and mission. Evaluation will provide further inputs regarding continuation of established priorities, goals and objectives or making changes to them. Performance indicators will be used to measure progress in accomplishing the program objectives. Evaluation studies will ensure that educational programs implemented are available and useful to all citizens of Louisiana and primarily to clients in the areas of food, agricultural and human sciences, and to urban and rural dwellers, youth,

government officials, faith and community leaders, and families.

LSU &SU AgCenter programs will be evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Specific programs scheduled for evaluation are as follows:

- FY2017--Horses, aquaculture, soybeans/wheat, food access in healthy communities and through CYFAR
- FY2018--Beef; pasture and forage; rice; commercial vegetables, fruit and sweet potatoes; food access in school gardens
- FY2019--Dairy, cotton, sugarcane and food access through SNAP-ED
- FY2020--Poultry, feed grains, food access in community gardens
- FY2021--Horses, aquaculture, soybeans/wheat, food access in healthy communities and through CYFAR

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Horticulture

2. Brief summary about Planned Program

Interest in horticulture-related topics is growing rapidly in Louisiana. LSU AgCenter extension and research programs in horticulture focus on three distinct clientele: commercial horticulture professionals, urban farmers and home gardeners. The key in this effort is to provide timely, relevant, up-to-date, research-based, and environmentally friendly information to clientele groups. The successful Louisiana Super Plants Program will continue in Louisiana nurseries. Urban, consumer and commercial clientele are reached through educational classes, workshops, farm and home visits, field days, garden shows and plant health clinics, one-on-one contact, newsletters, and mass media. The LSU AgCenter Web site is well-used by urban farming consumer audiences. Louisiana Master Gardener volunteers continue to extend extension's outreach to clients. Commercial production of vegetables, fruits and nuts is planned for under the Global Food Security and Hunger program area. Planned Program Area. The LCES School Garden initiative will continue to expand and is reported as part of the Childhood Obesity Planned Program Area.

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
202	Plant Genetic Resources	22%	0%	22%	0%
204	Plant Product Quality and Utility (Preharvest)	17%	0%	17%	0%
205	Plant Management Systems	35%	0%	35%	0%
211	Insects, Mites, and Other Arthropods Affecting Plants	3%	0%	3%	0%
212	Diseases and Nematodes Affecting Plants	9%	0%	9%	0%
213	Weeds Affecting Plants	3%	0%	3%	0%
405	Drainage and Irrigation Systems and Facilities	2%	0%	2%	0%
601	Economics of Agricultural Production and Farm Management	4%	0%	4%	0%
604	Marketing and Distribution Practices	5%	0%	5%	0%
	Total	100%	0%	100%	0%

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

1. Situation and priorities

There is an ever-increasing need for horticulture information, training and timely access to resources by consumers seeking assistance in developing and maintaining their home landscapes and gardens. Information is needed on species and cultivar selection, cultural practices, and weed management and many other topics. Reduced personnel resources coupled with increased interest in consumer horticulture, home gardening and home grounds has exacerbated the need for trained volunteers to assist in the delivery of quality educational horticulture programs. In many instances, Louisiana Master Gardeners will fill this need.

Additionally, Louisiana has an estimated 8,000 acres in nursery crop production in 730 nursery operations. The total value of the nursery industry to Louisiana in 2013 was \$155 million. Turf, nursery and ornamental professionals, desire information on production improvements, better maintenance options, pest management and best management practices. Louisiana retail garden centers want to expand ornamental plant promotion and marketing efforts. Timely communication of commercial horticulture happenings and research information is desired by the industry.

2. Scope of the Program

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

- Integrated Research and Extension
- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

- Resources and personnel will be available for continued research and extension effort on this topic.
- Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
- Expanded knowledge will result in behavior change.
- Current trends and interest in horticulture will continue.

2. Ultimate goal(s) of this Program

The ultimate goals of this program are:

1. Commercial nursery and landscape professionals maintain profitable enterprises in an environmentally-safe manner.
2. Urban farmers and home gardeners adopt recommended practices that improve home grounds and protect the environment.
3. The need for research-based horticulture information is supported by Louisiana Master Gardener volunteers.

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
2017	10.0	0.0	14.0	0.0
2018	10.0	0.0	14.0	0.0
2019	10.0	0.0	14.0	0.0
2020	10.0	0.0	14.0	0.0
2021	10.0	0.0	14.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Key horticulture program areas will address issues related to home grounds; home, community and school gardens and ornamentals and turf. The Louisiana Master Gardener program will provide volunteers to assist in addressing the growing needs of horticulture audiences and increased emphasis will be placed on school and community gardening efforts. The Advanced Louisiana Master Gardener Program will continue to be refined. The Louisiana Super Plants Program will continue to be offered to local horticulture professionals.

Teaching methods will include appropriate extension and research activities such as result demonstrations, volunteer training, field days, studies, individual consultations, group meetings, mass media, publication distribution, plant health clinic, garden shows and extensive use of Web technology and social media outlets to reach target audiences.

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"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations 	<ul style="list-style-type: none"> ● Public Service Announcement ● Billboards ● Newsletters ● TV Media Programs ● eXtension web sites ● Web sites other than eXtension ● Other 1 (Social media (blogs, etc.))

3. Description of targeted audience

Target audiences will include horticulture professionals, home gardeners, nursery industries, athletic field managers, Louisiana Master Gardener Volunteers and related agribusiness clientele.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
 - Direct Adult Contacts
 - Indirect Adult Contacts
 - Direct Youth Contacts
 - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of Web page views
 - Number of Louisiana Master Gardeners completing training series
 - Number of service hours contributed by all Louisiana Master Gardeners
 - Number of educational contacts made by Master Gardener volunteers
 - Number of educational program activities
 - Number of research and extension outreach publications developed (in-house)
 - Number of school gardens established
 - Number of advanced Master Gardeners certified
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Louisiana Master Gardener volunteers supplement the delivery of consumer horticulture program to clients.
2	Increased adoption of recommended practices by commercial horticulture professionals and producers
3	Increased adoption of recommended horticultural practices by urban farmers and home gardeners.

Outcome # 1

1. Outcome Target

Louisiana Master Gardener volunteers supplement the delivery of consumer horticulture program to clients.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Increased adoption of recommended practices by commercial horticulture professionals and producers

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 213 - Weeds Affecting Plants
- 205 - Plant Management Systems
- 204 - Plant Product Quality and Utility (Preharvest)
- 601 - Economics of Agricultural Production and Farm Management
- 202 - Plant Genetic Resources
- 211 - Insects, Mites, and Other Arthropods Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Increased adoption of recommended horticultural practices by urban farmers and home gardeners.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 213 - Weeds Affecting Plants
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 205 - Plant Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Lessons learned from natural disasters especially Hurricanes Katrina and Rita of 2005 and Gustav of 2008 remind us that we have to plan for external factors. Louisiana, due to its geographical location, is prone to both adverse and beneficial weather conditions which could affect program outcomes. Secondly, the state economy relies heavily on oil production. An increase or decrease in oil prices could increase or decrease the state's revenues respectively, thus impacting severely on budget appropriations. Additionally, federal dollars received via formula funds have been "flat" for several years and state budget crisis have caused major reductions in state appropriations. An increase in the consumer price index will further reduce the purchasing power of these funds. Public policy changes, government regulations and competing priorities could affect the program either positively or negatively, depending on whether they favor or work against the program goals. Population changes and competing programmatic challenges have the potential of affecting the outcomes of the program.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

LSU AgCenter programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Areas in this initiative that are scheduled for evaluation are:

- FY2017-Consumer horticulture/home gardens
- FY2018-Advanced Louisiana Master Gardener Program
- FY2019-Louisiana Master Gardener Program
- FY2020-Commercial Ornamentals & Turf
- FY2021-Consumer horticulture/home gardens

A mixed methods design with appropriate data collection tools will be used to assess emerging needs, adoption and intention to adopt recommended practices, behavior change, use of LSU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and to improve programs.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Resilient Communities and Economies

2. Brief summary about Planned Program

Resilient communities and economies are essential in facing the challenges of today's society. This program approaches resilience on multiple fronts:

- Reducing the impacts of natural and technological disasters through adaptation, mitigation and financial preparedness education at the individual/family, business and whole community levels;
- Improving the performance of buildings with respect to energy efficiency, resistance to natural hazards and environmental toxicity through education on sustainable building and retrofitting practices;
- Fostering sustainable economic growth by providing strategies in business management, finance, taxation, consumer issues, and community resource planning & development;
- Building stronger communities by encouraging and assisting with the development of active community partnerships and strong leadership; and
- Empowering youth and expanding their voice in disaster resilience issues.

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
402	Engineering Systems and Equipment	12%	0%	12%	0%
601	Economics of Agricultural Production and Farm Management	6%	10%	6%	10%
602	Business Management, Finance, and Taxation	14%	50%	14%	50%
607	Consumer Economics	6%	10%	6%	10%
608	Community Resource Planning and Development	0%	20%	0%	20%
610	Domestic Policy Analysis	0%	5%	0%	5%
721	Insects and Other Pests Affecting Humans	18%	0%	18%	0%
722	Zoonotic Diseases and Parasites Affecting Humans	4%	0%	4%	0%
723	Hazards to Human Health and Safety	8%	0%	8%	0%
801	Individual and Family Resource Management	7%	0%	7%	0%
802	Human Development and Family Well-Being	5%	0%	5%	0%
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	5%	0%	5%	0%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	5%	0%	5%	0%
805	Community Institutions and Social Services	10%	0%	10%	0%
903	Communication, Education, and Information Delivery	0%	5%	0%	5%
	Total	100%	100%	100%	100%

V(C). Planned Program (Situation and Scope)**1. Situation and priorities**

Louisiana residents, businesses and governments face significant challenges from severe poverty in the northern Delta region and Florida parishes, and exposure to extreme weather events along major rivers and the coast. There is considerable uncertainty on all fronts, given the current instability in the national economic picture, cut-backs in the many federal programs that have sustained Americans in distress during recent decades, and the rising threats associated with climate change. As a food-producing state that exports to the nation, Louisiana also has a role to play in planning to detect and deter threats to agriculture from natural, biological or radiological contamination due to failure at any of three nuclear power plants.

The poverty rate in Louisiana is seven percent higher than other states in the U.S. (19.6 compared to 12.4 percent), and rural poverty in Louisiana continues to be more severe than urban (24.2 compared to 18.1percent). Thirty eight percent of rural parishes are considered 'persistent poverty' parishes. In many rural parishes, broadband connectivity limits access to vast resources that can lead to a partial solution to this problem. Opportunities for agritourism development continue to grow as added value is sought for agricultural ventures in the state. Priority areas for sustainable economies are: 1) My Louisiana Program and 2) agri- and eco-tourism projects.

Louisiana leads the nation in flood damaged property. Vulnerability increases as sea level rises, the ground subsides and coastal marshes disappear. These changes threaten Louisiana residents, businesses and industries that are essential to the entire nation including seafood, natural gas, and petroleum. Forty percent of the flood insurance claims nationally have been paid in Louisiana; prior to Hurricane Sandy, the entire \$16 billion debt of the National Flood Insurance Program could be attributed to claims paid in Hurricanes Katrina and Rita. Flood barrier systems provide limited protection and have created an undue sense of security, leaving many without protection or insurance. The LSU AgCenter prioritizes programs that increase flood risk awareness and flood damage reduction through protective measures and programs that provide better risk data and analysis to local governments. These data help them prepare financially to fund their share of future disaster costs. The priority for sustainable housing is outreach to stimulate demand for and adoption of best practices for residential energy and resource efficiency, durable and resilient housing (mitigation), and healthy homes. In the planned program period, we will work on creating resilience in the next generation through 4-H centered disaster resilience education and community service projects.

For over forty years, community-based organizations have struggled to address problems of social, economic and physical distress in low to moderate-income communities throughout the United States. Despite the impressive growth of community-based organizations in Louisiana during the past decade, these organizations face numerous human and organizational deficiencies. To flourish in an economy that demands increased accountability, community-based organizations need strategies and directions to be effective in their endeavors. One of the key factors impacting urban and rural communities is the need to have an adequate knowledge and skill-based economy to meet the needs of our society. Information and technology impact all types of industries from retail and wholesale to manufacturing and service firms. It is changing the speed of business, the skills of workers, and the expectations of consumers. Linking community and economic development strategies to these trends will be critical. The economic and community development program at the 1890 institution works with faith-based and other social and civic organizations to explore and develop enterprises that will foster long-term economic viability.

2. Scope of the Program

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

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

1. Assumptions made for the Program

- There will continue to be a need for homes that are energy and water efficient, preserve the environment, resist natural hazards, and provide healthy environments for their occupants.
- Louisiana will see increased exposure to floods, storm surge, sea level rise and weather extremes associated with climate change.
- Economic conditions will continue to be difficult through the planning cycle.
- Community leaders, businesses and other stakeholders need access to community development and disaster resilience educational programs but do not have adequate resources to gain access.
- Participants will be empowered and motivated to adapt to the changing environment based on their expectations of safety, economic returns or improved quality of life.
- Information exists on researched-based best practices on how to educate rural residents concerning workforce development and agribusiness entrepreneurship.
- Resources and personnel will be available for continued research and extension effort on this topic.

2. Ultimate goal(s) of this Program

1. Increase the adoption of sustainable home building and retrofitting practices in Louisiana and across the Gulf region.
2. Provide better risk assessment tools and prepare parish and local governments to meet the fiscal challenges of increasing natural and technological disasters.
3. Empower property owners so they know their risks - now and as conditions change - and know how to protect themselves from natural disasters as threats increase.
4. Prepare and equip Louisiana's agricultural and emergency management communities to detect, deter, survive and recover from natural, biological and radiological incidents.
5. Engage youth as the next generation of community and economic resilience.
6. Provide entrepreneurial management and technical assistance that promote innovative and sustainable businesses with limited resources in Louisiana.
7. Assist community and faith-based organizations to build their capacity as they accomplish their mission.
8. Help local community and organizational leaders and residents acquire skills, obtain relevant information/data and build management capacity to successfully manage a community or city, thus developing the policies and strategic plans and alliances needed for this success.
9. Support an improved quality of life and growing diversity of targeted communities in the state of Louisiana.
10. Promote active partnerships between businesses, community based organizations, public agencies and elected leadership.

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
2017	5.0	8.0	2.0	2.0
2018	5.0	8.0	2.0	2.0
2019	5.0	8.0	2.0	2.0
2020	5.0	8.0	2.0	2.0

2021	5.0	8.0	2.0	2.0
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V(F). Planned Program (Activity)

1. Activity for the Program

The Resilient Communities and Economies initiative includes activities in the following areas:

Economic & Community Development

- Planning, market assessment, management, and marketing strategies for established businesses.
- Strategic planning for community leaders and residents in the targeted areas
- Provide assistance to existing organizations to strengthen links between businesses, community based organizations and outreach education.
 - Assist local farmers and other producers to develop alternative enterprise initiatives for rural businesses. Encourage the development of agribusinesses to include utilization of niche markets (vegetables, organic products pasture-raised poultry and beef, ag tourism and eco-tourism, etc.) for agricultural producers.
 - Grant writing workshops to empower individuals, businesses and communities to enhance their skills on how to write for and obtain successful grants.
 - Procurement conference for business owners and potential business owners in collaboration with local, state and federal agencies.
 - Building/enhancing coalitions for business development and expansion.
 - Provide education and training for low skilled individuals to prepare them for the job market.
 - Develop community leaders through the Building Opportunities through Leaders Development (BOLD) program. BOLD is a program designed to develop teams of emerging leaders in rural and underserved communities throughout Louisiana. The program will continue to focus on providing community leaders with the tools to enhance their personal decision making, strategic planning and the use of modern and emerging technology.
 - Stronger Economies Together (SET) enables communities and parishes (counties) in rural America to work together in developing and implementing an economic development blueprint for their multi-county region to address critical contemporary rural development issues impacting the well-being of people and communities in the rural South

Disaster Resilience and Sustainability - People-based

- Sustainable Housing / LaHouse, a program that educates homeowners and building industry professionals about building hazard-resistant, resource-efficient, healthy homes.
- Disaster Recovery and Mitigation reaches across the many disciplines of Cooperative Extension to put relevant information in the hands of citizens for disaster recovery and to reduce vulnerability to the hazards including building code education.

Risk Appreciation (Awareness, Avoidance and Data Enhancement)

- Interactive, online hazard maps, a program that builds hazard awareness by making information easily accessible while also providing same-page building-site information to the property owner, builder, and regulatory agencies
 - Sea Level Rise, Subsidence and Storm Surge, programs include storm surge and flood modeling that reflect projected conditions (sea level rise and subsidence) and the uncertainties of levee protection. The program also detects inaccuracies in the modeling data for hazard forecasting and obtains better data to fill the gaps.

Disaster Resilience - Place-based

- Financial Disaster Resilience for Local Governments, a program involving studies of financial capacity of local governments to meet disaster recovery obligations and educational programs to improve capacity
- Agrosecurity Planning and hurricane and nuclear exercises are separate initiatives to protect Louisiana's agriculture from natural and technological hazards, including hurricanes, terrorism and accidental releases from nuclear power plants

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"> • Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations • Other 1 (Site visits) 	<ul style="list-style-type: none"> • Public Service Announcement • Newsletters • TV Media Programs • eXtension web sites • Web sites other than eXtension • Other 1 (Radio, Newspaper, Print Media) • Other 2 (Blog & other Social Media)

3. Description of targeted audience

Target audiences for this initiative include: general public, elected officials, youth, emergency and floodplain managers, underserved populations, farmers, small business owners & governmental and non-governmental organizations.

- Hurricane, storm surge, sea level rise and financial disaster resilience focus on the southern third of the state (hurricane prone region).
- Sustainable housing, flood mitigation, hazard mapping, community resilience and agrosecurity are statewide.
- Housing and risk awareness programs target building and hazard management industry professionals (and their associations); their clientele and youth.
- Agrosecurity engages producers of food commodities and agribusiness.
- The flood risk awareness and mitigation programs also have a national audience through service in the Association of State Floodplain Managers and Natural Hazard Mitigation Association.
- BOLD program targets rural leaders especially the underserved.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
 - Direct Adult Contacts
 - Indirect Adult Contacts
 - Direct Youth Contacts
 - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of Web page views
- Number of LaHouse Resource Center visitors
- Number of building professionals who participated in sustainable housing educational activities (seminars, tours, technical assistance)
- Number of consumer contacts in LaHouse sustainable housing and landscaping educational activities
- Number of LaHouse Facebook followers (Likes)
- Number of research and extension outreach publications developed (in-house)
- Number of site-specific flood and wind risk determinations provided using the online "FloodMaps" portal
- Number of educational program activities

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Individuals, entrepreneurs and community leaders gain knowledge of sustainable strategies for economic and/or community growth.
2	Individuals, families, businesses, agricultural producers and community leaders gain knowledge of the threat of disasters, how to prepare themselves and their property to minimize damage, recover from disaster impacts, and rebuild hazard-resistant homes.
3	Adoption of high performance building and retrofitting practices by consumers
4	Increase in specification or recommendation of high performance building and retrofitting practices by professionals.

Outcome # 1

1. Outcome Target

Individuals, entrepreneurs and community leaders gain knowledge of sustainable strategies for economic and/or community growth.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 903 - Communication, Education, and Information Delivery
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 802 - Human Development and Family Well-Being
- 801 - Individual and Family Resource Management
- 608 - Community Resource Planning and Development
- 602 - Business Management, Finance, and Taxation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Individuals, families, businesses, agricultural producers and community leaders gain knowledge of the threat of disasters, how to prepare themselves and their property to minimize damage, recover from disaster impacts, and rebuild hazard-resistant homes.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 723 - Hazards to Human Health and Safety
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Adoption of high performance building and retrofitting practices by consumers

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 607 - Consumer Economics
- 801 - Individual and Family Resource Management
- 903 - Communication, Education, and Information Delivery
- 802 - Human Development and Family Well-Being
- 402 - Engineering Systems and Equipment
- 723 - Hazards to Human Health and Safety
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Increase in specification or recommendation of high performance building and retrofitting practices by professionals.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 903 - Communication, Education, and Information Delivery
- 723 - Hazards to Human Health and Safety
- 607 - Consumer Economics
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
- 801 - Individual and Family Resource Management
- 402 - Engineering Systems and Equipment

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Lessons learned from natural disasters especially Hurricanes Katrina and Rita of 2005 and Gustav of 2008 remind us that we have to plan for external factors. Louisiana, due to its geographical location, is prone to both adverse and beneficial weather conditions which could affect program outcomes. Secondly, the state economy relies heavily on oil production. An increase or decrease in oil prices can increase or decrease the state's revenues respectively, thus impacting severely on budget appropriations. Additionally, federal dollars received via formula funds have remained "flat" for several years and state budget crisis have caused major reductions in state appropriations. An increase in the consumer price index will definitely reduce the purchasing power of these funds. Public policy changes, government regulations and competing priorities could affect the program either positively or negatively, depending on whether they favor or work against the program goals. Population changes and competing programmatic challenges have the potential of affecting program outcomes.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Programs are evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Components of the Resilient Communities & Economies are scheduled for evaluation as follows:

- FY 2017-Disaster Resilience--Place-based
- FY 2018-Community & Economic Development
- FY 2019-Risk Appreciation
- FY 2020-Disaster Resilience & Sustainability--People-based
- FY 2021-Disaster Resilience--Place-based

Appropriate evaluation designs and processes are used to gather information on emerging issues, adoption and intention to adopt recommended practices, use of LSU & SU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and programming efforts are adjusted accordingly.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Sustainable Energy

2. Brief summary about Planned Program

Agricultural landowners, producers and managers should understand their options for sustainable ways to grow biomass and how they can reduce their own energy needs through the use of more efficient technology and conservation. In this planned program, growers and processors will be educated about renewable energy use in agricultural production systems. The overarching goal of this initiative is to assist agricultural producers in understanding how they can contribute to the nation's supply of biofuels by producing the biomass necessary to produce that fuel and to lead others in the adoption of new technologies that will reduce the demands on our current energy supply.

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
123	Management and Sustainability of Forest Resources	0%	10%	0%	10%
131	Alternative Uses of Land	25%	10%	5%	10%
402	Engineering Systems and Equipment	0%	0%	43%	0%
403	Waste Disposal, Recycling, and Reuse	50%	60%	5%	60%
404	Instrumentation and Control Systems	0%	0%	6%	0%
511	New and Improved Non-Food Products and Processes	0%	10%	33%	10%
512	Quality Maintenance in Storing and Marketing Non-Food Products	25%	10%	8%	10%
	Total	100%	100%	100%	100%

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

1. Situation and priorities

The Energy Independence and Security Act of 2007 called for at least 12.95 billion gallons of renewable fuels to be used in the U.S. in 2010 and 36 billion gallons (16 billion gallons of cellulosic biofuel) by 2022. The recent USDA Roadmap on Biofuels calls for production of 13.4 billion gallons of advanced

biofuels from grassy crops. The rapid expansion of the biofuel's industry has occurred as a result, for the most part, of this country's growing dependence of foreign oil.

Agriculture underlies the country's push to sustainable energy, yet agricultural feedstocks are available only in a fixed window of time. Flexibility in operation of a biorefinery requires continuous feedstock delivery. The technical hurdles that block biofuel production in Louisiana range from finding multiple feedstocks for year round delivery, developing the tools for producers and processors to determine value of these crops, developing processing technologies for biofuels and finding supplemental high value products to improve the economics.

Biofuels derived from plant biomass can contribute substantially to improving energy independence of the United States. Louisiana has a long growing season and high vegetation diversity that can foster biomass production to support a biofuel industry. Maximizing biomass production potential for the state necessitates identification of crops and cropping systems capable of producing high biomass in an economically viable and environmentally sustainable manner. Extension faculty in the W.A. Callegari Center will continue to educate clientele in the production and use of biodiesel as an alternative fuel.

2. Scope of the Program

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

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

1. Assumptions made for the Program

- Resources and personnel will be available for continued research and extension effort on this topic
- Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
- Expanded knowledge will result in behavior change.
- Present trends in sustainable energy development and use will continue.

2. Ultimate goal(s) of this Program

The goals of this program are to:

1. Educate agricultural producers who can contribute to the source of biomass to create biofuels;
2. Educate consumers regarding the adoption of energy-saving and alternative energy technologies;
3. Assist communities and organizations to build their capacity as they accomplish their mission of ensuring sustainable energy; and
4. Promote active partnerships between businesses, community based organizations, public agencies in ensuring sustainable energy.

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
2017	1.0	1.0	5.0	6.0
2018	1.0	1.0	5.0	6.0
2019	1.0	1.0	5.0	6.0
2020	1.0	1.0	5.0	6.0
2021	1.0	1.0	5.0	6.0

V(F). Planned Program (Activity)

1. Activity for the Program

1. Research and extension efforts including workshops, demonstrations, field days, conferences, classes and individual interventions regarding biofuel development focused on using Louisiana-produced crops and/or crop residues to produce and utilize fuels such as ethanol, biodiesel, and other next generation alternative fuels.
2. Work with existing organizations to strengthen links between businesses, community based organizations and outreach education.
3. Assist local farmers and land owners/users to develop alternative enterprise initiatives for rural businesses.
4. Empower community leaders and residents in the targeted areas to develop strategic plans for optimum utilization of natural resources.
5. Communicate and disseminate research findings about sustainable energy to consumers through extension personnel in the form of publications, conferences, workshops, field days, home/office visits, demonstrations and other educational resources.
6. Organize grant writing workshops to empower individuals, businesses and communities enhance their skills on how to write for successful grants.
7. Collaborate, cooperate and partner with local, state and federal agencies, institutions, groups, private organizations/associations in seeking and delivering services to citizens.
8. Encourage community organizations and resident involvement in developing plans for sustainable energy. Provide community leaders with advice and recommendations regarding best practices in community economic development programs for their communities.

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"> ● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 (Home/Office Visits) 	<ul style="list-style-type: none"> ● Public Service Announcement ● Newsletters ● TV Media Programs ● eXtension web sites ● Web sites other than eXtension ● Other 1 (Radio, Newspaper, Print Media) ● Other 2 (Blog & other Social Media)
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3. Description of targeted audience

The target audience for this program includes agricultural producers in Louisiana and southeast United States; consumers; renewable and natural resource energy production industries; and LSU AgCenter faculty. The SU AgCenter component of this program will target rural and urban dwellers, under-represented, underserved, socially and economically disadvantaged groups in traditionally agricultural and urban communities in the State for the purpose of encouraging and educating them on the need for, and the benefits of sustainable energy.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
 - Direct Adult Contacts
 - Indirect Adult Contacts
 - Direct Youth Contacts
 - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of Web page views
- Number of research & extension outreach publications developed (in-house)
- Number of agricultural producers providing biomass as feedstock for fuels
- Number of educational program activities

- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Extension faculty and research scientists increase knowledge regarding feedstock generation, biofuel production and the overall biofuel chain
2	Implementation of sustainable biofuels systems
3	Farmers, processors and potential feedstock producers increase their knowledge regarding the use of agricultural feedstocks to generate biofuels.

Outcome # 1

1. Outcome Target

Extension faculty and research scientists increase knowledge regarding feedstock generation, biofuel production and the overall biofuel chain

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 403 - Waste Disposal, Recycling, and Reuse
- 402 - Engineering Systems and Equipment
- 131 - Alternative Uses of Land
- 404 - Instrumentation and Control Systems
- 512 - Quality Maintenance in Storing and Marketing Non-Food Products
- 511 - New and Improved Non-Food Products and Processes

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Implementation of sustainable biofuels systems

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes
- 131 - Alternative Uses of Land
- 403 - Waste Disposal, Recycling, and Reuse
- 512 - Quality Maintenance in Storing and Marketing Non-Food Products
- 404 - Instrumentation and Control Systems
- 402 - Engineering Systems and Equipment

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Farmers, processors and potential feedstock producers increase their knowledge regarding the use of agricultural feedstocks to generate biofuels.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes
- 123 - Management and Sustainability of Forest Resources
- 402 - Engineering Systems and Equipment

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Description

Lessons learned from natural disasters especially Hurricanes Katrina and Rita of 2005 and Gustav of 2008 remind us that we have to plan for external factors. Louisiana, due to its geographical location, is prone to both adverse and beneficial weather conditions which could affect program outcomes. Secondly, the state economy relies heavily on oil production. An increase or decrease in oil prices can increase or decrease the state's revenues respectively, thus impacting severely on budget appropriations. Additionally, federal dollars received via formula funds have remained "flat" for several years and state budget crisis have caused major reductions in state appropriations. An increase in the consumer price index will definitely reduce the purchasing power of these funds. Public policy changes, government regulations and competing priorities could affect the program either positively or negatively, depending on whether they favor or work against the program goals. Population changes and competing programmatic challenges have the potential of affecting the outcomes of the program.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

LSU & SU AgCenter programs will be evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. The components of this program are scheduled for evaluation as follows:

- FY2017-Increased knowledge of producers
- FY2018-Supply of feedstocks
- FY2019-Adoption of sustainable energy practices
- FY2020-Increased knowledge of extension and research faculty
- FY2021-Increased knowledge of producers

Appropriate evaluation tools and designs will be used to gather input on emerging issues, adoption and intention to adopt recommended practices, use of resources and basic demographic information. Resulting information is used to develop impact reports and programming efforts are adjusted accordingly. Post program, before and after program, during program, and comparison studies will be conducted. Other methods will be incorporated as appropriate and feasible. The main focus of evaluation will be on determining the level(s) to which program activities carried out met and addressed the critical needs of participants and how citizens benefited, solved problems, or realized improved quality of life by participating in the program. To ensure that evaluation is culturally competent, stakeholders' involvement and inputs will continue to be strongly encouraged and utilized to establish priorities, goals and objectives consistent with state, regional and national issues based on the land-grant philosophy and mission. Evaluation will provide further inputs regarding continuation of established priorities, goals and objectives or making changes to them. Performance indicators will be used to measure progress in accomplishing program objectives. Evaluation studies will ensure that educational programs implemented are available and useful to all citizens of Louisiana and primarily to clients in the areas of food, agricultural and human sciences, and to urban and rural dwellers, youth, government officials, faith and community leaders, and families.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Youth Development

2. Brief summary about Planned Program

The Louisiana 4-H Youth Development Program targets Louisiana youth through educational efforts in three mission mandate areas: Citizenship, Healthy Living and Science and Technology. Programs focus on the development of four essential elements in youth--belonging, independence, mastery and generosity. In this state, 4-H continues to offer a broad range of learning opportunities for youth, including but not limited to, traditional school club programs, school enrichment activities and community service learning. Delivery of educational programs beyond in-school clubs will be emphasized. Youth will be guided in developing skills that result in effective decision-making, planning, and interacting with others.

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
724	Healthy Lifestyle	0%	20%	0%	20%
806	Youth Development	100%	80%	0%	80%
	Total	100%	100%	0%	100%

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

1. Situation and priorities

Louisiana 4-H offers a broad range of opportunities to develop life skills and leadership potential. Over 100 4-H agents and nearly 9,000 adult and youth volunteers reach 221,223 youth through educational programs delivered in organized clubs, special interest groups, after- school programs, school enrichment and other delivery methods. Through these educational opportunities, youth become positive, productive, and capable citizens of their communities. Community, state, and national assessments through an advisory process facilitate providing meaningful, in-depth, quality program. Resources are allocated to areas where needs and potential for benefit can be maximized.

An increasing proportion of American children are at substantially higher risks for undernourishment,

child abuse and neglect, poor health, substance abuse, teenage pregnancy, violence and academic underachievement, due to conditions beyond their control. Eighteen percent of Louisiana's families with children and 23% of adults without children live in poverty. Poverty rates are higher among African-Americans (44%) and children 18 and under (31%). These children and adolescents are placed at risk and need various forms of mentoring. Additionally, the results from a 2000 Louisiana Youth Tobacco Survey (YTS) showed that more than 70,000 (50%) public middle school students in Louisiana reported having ever smoked a cigarette, and 17% currently smoke cigarettes. Moreover, 28.6% of the students had smoked their first cigarette before the age of 11.

While national volunteer rates continue to rise (26.8%), only 20% of Louisiana citizens volunteer, which results in a state ranking of 47th in the nation. While youth and adult volunteers are serving to make a difference, there remains an unclear yet blatant sense among most that volunteer efforts matter little to the civic life and health of communities. Americans express despair over the drift away from core civic values to emphasize "winning at all costs." Greed and selfishness eclipse family, community, and responsibility.

America faces a crisis in its ability to keep up with the increasing demand for professionals who are literate in science and math. Many Louisiana youth are ill-prepared to enter careers in which mastery of science concepts is a pre-requisite. In Louisiana, the percentage of 4th graders with below basic test scores in science was 43%. The percentage of 8th graders with below basic test scores in science was 53%. Less than half (44%) of youth had computers in their home.

Healthy living is also a priority for Louisiana 4-H. According to KIDS COUNT, Louisiana has ranked 49th in the nation on childhood health and well-being since 2002. Louisiana received a D on the Report Card on Physical Activity and Health for Children and Youth. The effort in this area will be reported under the NIFA Childhood Obesity initiative area.

2. Scope of the Program

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

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

1. Assumptions made for the Program

- Resources and personnel will be available for continued research and extension effort on this topic.
- Participants will be motivated to make behavioral changes based on their expectations of economic returns or improved quality of life.
- Expanded knowledge will result in behavior change.
- Present trends will continue.

2. Ultimate goal(s) of this Program

1. Provide educational experiences and opportunities where youth can achieve a sense of belonging, independence, mastery and generosity which will impact their adult lives.

2. Focus on innovative youth development activities that allow youth from various communities to gain competencies in life skills and develop their full potential.
3. Develop a youth entrepreneurship program that meets the needs of community participants.
4. Provide educational information to rural and urban youth on the harmful effects of tobacco use.
5. Conduct an aggressive educational program designed to improve standardized test scores for Louisiana youth.
6. Increase volunteer/parental involvement and participation in promoting the social, emotional, and academic growth of children.

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
2017	48.0	8.0	0.0	0.5
2018	48.0	8.0	0.0	0.5
2019	48.0	8.0	0.0	0.5
2020	48.0	8.0	0.0	0.5
2021	48.0	8.0	0.0	0.5

V(F). Planned Program (Activity)

1. Activity for the Program

The Louisiana 4-H Youth Development Program targets Louisiana youth using age appropriate, research-based, educational experiences in three mission mandate areas: Citizenship, Healthy Living and Science and Technology and entrepreneurship (SU AgCenter). Programs focus on the development of four essential elements in youth--belonging, independence, mastery and generosity. In this state, 4-H continues to offer a broad range of learning opportunities for youth, including but not limited to, traditional school club programs, school enrichment activities and community service learning. Delivery of educational programs other than in-school clubs will be emphasized. Youth will be guided in developing skills that result in effective decision-making, planning, and interacting with others.

Examples of specific educational activities include:

- 4-H club meetings, livestock shows, camps, fairs & festivals, field trips, workshops & clinics, school enrichment, after school programs, parish achievement days, mentoring programs, peer counseling, and family events.
- YES--SU AgCenter's Youth Educational Support and After School Program
- Recruitment, training and retention of both adult and youth volunteers to assist with program delivery.
- Innovative programs that will enhance social status for rural and urban youth and introduce them to new scientific and technological discoveries.
- Learning experiences targeting at-risk children, youth, and families in community settings to increase self-reliance, self-esteem, and confidence and encourage healthy lifestyle choices.
- Teach business techniques, ethics and etiquette to aspiring entrepreneurs.

- Empower youth to develop and make positive choices as good citizens.

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"> • Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations • Other 1 (Home visits) 	<ul style="list-style-type: none"> • Public Service Announcement • Billboards • Newsletters • TV Media Programs • eXtension web sites • Web sites other than eXtension • Other 1 (Radio, Newspaper, Print Media) • Other 2 (Blog & other Social Media)

3. Description of targeted audience

This program targets Louisiana youth ages 9-19 in 64 parishes as well as youth and volunteers. A large number of these children under 18 years of age are placed at risk because their families survive on low income and limited resources. They lack knowledge, information, and/or skills to utilize existing resources to improve their quality of life. Eighteen percent of Louisiana families with children and 23% of adults without children live in poverty. Poverty rates are higher among African-Americans (44%) and children 18 and under (31%). Louisiana ranks 13th in the US for Food Stamp Program participation, 74% of those eligible. Parents and/or guardians of these children are also targeted. Additionally, children and adolescents who are placed at risk, those who are potentially at risk and children who need various forms of mentoring will also benefit. Program staff and volunteers will be trained to ensure effective and efficient delivery of information.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
 - Direct Adult Contacts
 - Indirect Adult Contacts
 - Direct Youth Contacts
 - Indirect Youth Contact
 - Number of patents submitted
 - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of Web page views
 - Number of research & extension outreach publications developed (in-house)
 - Number of youth engaged in service projects
 - Number of hours of service performed by youth
 - Number of educational program activities
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Youth gain knowledge, improve skills or change attitudes about healthy living, science, citizenship and/or science & technology.
2	Youth are engaged as contributing citizens within their community.
3	Youth and adult volunteers serve as competent leaders in Louisiana 4-H and other youth development programs.

Outcome # 1

1. Outcome Target

Youth gain knowledge, improve skills or change attitudes about healthy living, science, citizenship and/or science & technology.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 806 - Youth Development
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension
- 1890 Extension
- 1890 Research

Outcome # 2

1. Outcome Target

Youth are engaged as contributing citizens within their community.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension
- 1890 Extension
- 1890 Research

Outcome # 3

1. Outcome Target

Youth and adult volunteers serve as competent leaders in Louisiana 4-H and other youth development programs.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension
- 1890 Extension
- 1890 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The economy may continue to impact greatly on planned program. As a result of going through the worst recession, many businesses may continue to struggle to stay afloat. Deep reduction in state budgets and the threat of large cuts in Federal Budgets could result in massive layoffs which will add to the burden of unemployment and slow business growth. Also, declining state and local government revenues, if they continue, may force policy makers to make changes in programs, reduce appropriations, review policies, and shift priorities. Public policy changes, government regulations and competing priorities could affect the program either positively or negatively, depending on whether they favor or work against the program goals. Population changes and competing programmatic challenges have the potential of affecting the outcomes of the program.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Post program, before and after program, during program, and comparison studies will be employed. Other methods will be incorporated as appropriate and feasible. The main focus of evaluation will be on determining the level(s) to which program activities carried out met and addressed the critical needs of participants and how citizens benefited, solved problems, or realized improved quality of life by participating in the program. To ensure that evaluation is culturally contextual, stakeholders' involvement and inputs have been strongly encouraged and utilized to establish priorities, goals and objectives consistent with state, regional and national issues based on the land-grant philosophy and mission. Evaluation will provide further inputs as to continuing with established priorities, goals and objectives or making changes to them. Performance indicators will be used to measure progress in accomplishing the objectives.

LSU & SU AgCenter programs will be evaluated on a four-year cycle with 1/4 of the major base programs evaluated each year. Areas in this initiative that are scheduled for evaluation are:

- FY 2017-4-H Career Exploration
- FY 2018-4-H Citizenship & 4-H Character Development
- FY 2019-4-H Youth leadership & 4-H Environmental Education
- FY 2020-4-H Volunteer Development & 4-H Science Literacy
- FY 2021-4-H Career Exploration

A mixed methods design with appropriate data collection tools will be used to assess emerging needs, adoption and intention to adopt recommended practices, use of LSU & SU AgCenter resources and basic demographic information. Resulting information is used to develop impact reports and to improve programs.