2012 Alcorn State University Combined Research and Extension Plan of Work

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I. Plan Overview

1. Brief Summary about Plan Of Work

The Joint Extension and Research Plan of Work (POW) for the Alcorn State University (ASU) School of Agriculture, Research, Extension, and Applied Sciences (AREAS) draws upon the organization's unique strengths and its comprehensive delivery system in conducting original research and delivering educational programs targeted to limited-resource clientele. The joint planned programs reflected in the Plan of Work are implemented by research and extension professionals to facilitate positive change in the Capital River, Delta, and Coastal regions of Mississippi.

The Alcorn State University state-level extension and research staff consists of two groups: (1) researchers who conduct studies to address relevant issues and situations facing the state's limited-resource citizens and (2) extension specialists who draw upon research-based information to design, develop, and implement educational programs to deliver new knowledge to limited-resource clientele, enabling those clientele to develop skills that will improve their quality of life. At the county level, members of the Extension Program Area staff will implement educational programs, events, and activities that enable limited-resource clientele to acquire and apply new research-based information and to develop new or expanded skills. Research and education programs are enriched and enhanced by the Model Farm on the ASU campus, two off-campus demonstration centers located in Mount Bayou and at Preston/Kemper, and a farmers market in Natchez. These programs are designed to address issues relevant to specific geographic areas of the state. The Natchez Farmers Market was developed in the southwestern part of the state through a partnership between the Alcorn State University Extension Program and the City of Natchez. Accessible marketing opportunity will be provided to limited-resource farmers and businesswomen, who are able to sell vegetables and other produce as well as value-added products such as jam and jellies to consumers. In the North Delta region, the Marks Processing Center provides limited-resource farmers an opportunity to observe research and Extension demonstrations on the processing of various crops to produce valued-added products that can increase income.

The Experiment Station, through its own research programs as well as collaborative partnerships with state universities and other related state agencies, conducts research and information interchange on key issues of importance to limited-resource citizens. Located on the ASU campus, the Experiment Station emphasizes research on vegetable and fruit production and collaborates in the research efforts of the Departments of Human Sciences and Advanced Technologies. Ongoing research at the Experiment Station focuses on the technical feasibility of new crops and on techniques of cultivation, weed control, and pest management to optimize crop yield.

The Small Farm Development Center (SFDC), a unique entity within the School of AREAS, provides farm loans to limited-resource farmers who otherwise would not have access to the capital needed to pursue innovative alternative enterprises. The Extension Program's 2501 project, conducted in collaboration with the Farm Service Agency (FSA), provides vendor borrowing training to educate farmers in the requirements for accessing capital available from that agency. The project staff collaborates with other USDA agencies to better connect limited-resource farmers with the services they need to improve the profitability of their farming operations.

The Mississippi River Research Center focuses on major concerns in the Southern Mississippi River Valley of the United States, such as nonpoint-source pollution of ground and surface waters from agricultural activities. The mission of the Mississippi River Research Center is to conduct research that will protect and enhance the region's water resources while sustaining agricultural production and income for farmers. Studies include evaluation of climate factors such as temperature and rainfall events that will affect crop production. Research will be conducted in conjunction with other studies performed at the ASU Experiment Station.

At the Church Hill Swine Center in the southwestern region of the state, research is conducted on swine production and management. The Swine Development Center is supported by state funds supplemented by a USDA-NIFA Capacity Building Grant. The Center has the following objectives: (1) to develop production systems that will enhance swine productivity across the state while conserving air, soil, and water resources; (2) to improve the quality, safety, and composition of pork products; (3) to provide knowledge to enhance the international competitiveness of U.S. animal agriculture; (4) to generate information to enhance the socioeconomic well-being of rural communities; (5) to evaluate new and sustainable swine production systems for small producers; and (6) to conduct research that provides training for graduate and undergraduate students. Current research is focused on nutritional manipulation of gestating sows to increase their productivity. Trials are conducted to increase baby pig survival and litter size in sows through lysine and/or chromium picolinate supplementation of the maternal diet. Other research projects are exploring the use of underutilized plants to enhance the quality of pork products. Purslane and waterleaf plants, known to be rich in omega-3 fatty acids and pectin, are being tested for efficacy in reducing cholesterol in swine as well as in humans. The Center conducts outreach programs collaboratively with the Extension Program, including field days, workshops and demonstrations, and 4-H animal judging contests for junior and senior high school teams.

After careful review of the effectiveness of implementation of nine planned programs of our 2007, 2008 and 2009 Joint Plan of Work between Extension and Research various concerns and issues were evident which indicated a need to narrow our planned program scope from nine (9) planned programs with three being Extension only to five (5) Joint planned programs consisting of both Extension and Research. First we careful reviewed where there were a great demand for programs and where both extension and our research efforts could be most effective coordinated across the School of AREAS. The reduced programming scope of programs will allow the School of AREAS through both Extension and Research to more effectively address high priority issues facing limited-resource clientele in the Delta, Coastal and Capital River targeted regions of the state of Mississippi. The five planned programs are as follows:1) Sustainable Plant Production Systems: 2) Sustainable Animal Production Systems; 3) Community Resource Planning & Economic Development; 4)The Small Family Farm Enterprise Financial Analysis, Management, and Marketing; 5)Youth, Family, Nutrition, Health, Fitness Wellness and Obesity. The decision by the School of AREAS for the reduction in the number of planned programs for the 2010-2014 Plan of Work Update was based on both an assessment of the issues that limited-resource audiences and stakeholders indicated were of high priority. The decision was also based on the most effective utilization of Research and Extension expertise resources to enhance our effectiveness. In this update (2012- 2016), the major changes made as described above remain unchanged; however, the planned programs will be addressed in the context of priority need areas namely: 1) Global Food security and Hunger, 2) Climate Change, 3) Sustainable Energy, 4) Food Safety, and 5) Childhood Obesity, 6) Youth, Family, Nutrition, Health, Fitness and Wellness, 7) The Small Family Farm Enterprise Financial Analysis, Management, and Marketing, and 8) Community Resource Development and Economic Planning. Programs (6 & 7) will be addressed by Extension only.

Food security can be addressed within the framework of availability, utilization, stability, and access. As defined by the Food and Agriculture Organization (FAO), food security is a situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life. The types of research and

outreach activities conducted at Alcorn State University will not only help address the needs of limited-resource households in Mississippi, but will help find solutions to problems in the global economy. The research and outreach activities in progress at ASU deal specifically with animal production systems, forestry, plant production systems, nutrition, human and family well-being, and youth-at-risk. All these activities will contribute to addressing issues related to global food security and hunger.

The demand for food, fiber, land and water increases with population growth. When the amount of land under cultivation is expanded for other uses, pressure is exerted on the ecosystem. Further, reduction in a natural sink of carbon, increased agricultural emissions of greenhouse gases, and expansion of agriculture to marginal land may undercut our ability to support agricultural production. These types of activities contribute to change in climate, thereby affecting agricultural production in many ways. The major direct effects will be through changes in temperature, precipitation (extreme weather events), length of growing season, and changes in atmospheric carbon dioxide concentration. Alcorn State University will focus on best management practices and best available technologies to improve crop production and economic values while minimizing adverse impact on the environment.

Alcorn State University is involved in alternative and renewable energy resource initiative that focuses on biomass resources, energy conversion and conservation, and technology transfer/information dissemination. The initiative is currently focused on animal wastes, pants, and feedstock as sources for alternative energy.

In recent years, there has been an increase in food-borne illnesses that correlates with increased consumption of fresh fruits and vegetables. This has been sparked partly by increased awareness of the health benefits associated with fresh produce, year-round importation, changes in production and processing methods, and the emergence of new pathogens associated with fresh produce. Methods to detect contamination on fresh produce are less advanced compared to beef and chicken. The effectiveness of testing and detecting contamination on fresh produce is further limited by the sporadic nature of the contamination. The lack of an effective antimicrobial treatment for fresh produce means there is a high chance that pathogens introduced at any point in the production process may be present in the final consumable products. In 1998 the USDA established good agricultural practices (GAP) based on the guidelines developed by the Food and Drug Administration (FDA) to increase awareness of the potential for food-borne hazards among domestic and foreign producers, packers and shippers of fresh fruits and vegetables. Alcorn State University will conduct extension and research activities to increase awareness and adoption of these guidelines among limited-resource farmers. Non judicious use of pesticides leaves harmful levels of residues on food crops that can have severe effects on human and animal health in the short run or over an extended period of continuous exposure. Alcorn State University will conduct extension and research activities to educate farmers on judicious use of pesticides and develop biological control methods.

Decreasing the prevalence of obesity among adolescent and young children in Mississippi requires focusing on key issues that address increasing physical activity, nutrition education programs, and risk factors associated with childhood obesity. There is a strong need for more prevention at a very young age, since an obese child will probably become an obese adolescent, and ultimately, an obese adult. However, if overweight/obesity risk factors are already present, then appropriate interventions should be readily available to prevent further weight gain as well as weight-related co-morbidity. Alcorn State will develop extension and research programs to mitigate childhood obesity in the state. We envision that activities to be conducted in this priority area will help reduce the prevalence of obesity in children and adults and its associated chronic diseases.

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.0	38.5	0.0	40.0
2013	0.0	39.5	0.0	40.0
2014	0.0	41.0	0.0	40.0
2015	0.0	41.0	0.0	40.0
2016	0.0	41.0	0.0	41.0

II. Merit Review Process

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

- ☐ Internal University Panel
- ☐ External University Panel
- ☐ External Non-University Panel
- ☑ Combined External and Internal University Panel
- ☑ Combined External and Internal University External Non-University Panel
- ☑ Expert Peer Review
- ☐ Other

2. Brief Explanation

A combined internal and external university and external non-university panel will be selected every two years consisting of individuals to provide a merit review process of the Joint Extension/Research Plan of Work (POW) to establish the merit of the planned programs in the plan of work. Selected individuals will include ASUEP state program leaders, specialists and researchers from both the internal and external land-grant universities within and outside of the state of Mississippi, and others as deemed necessary of the state. Additionally, non-and-university panel members will consist of various partnering agencies with similar types of research and extension priorities in the state. The merit review process will focus on the five planned programs. A comprehensive and detailed program review will be conducted by the panel of the planned programs in the plan of work (POW) at least every other year. Alcorn State University Extension and Research of AREAS will initiate program reviews of all planned programs at various intervals over the next five years. These reviews will be conducted by review panels selected specifically for the purpose of the review. Input obtained from local and state stakeholders from the environmental scanning system as well as from faculty in the respective areas of the plan will be shared in order to assess the merit of planned programs in the POW. The detailed review of the planned program is anticipated to be conducted every other year. This review, conducted by a combined internal and external university and external

non- university panel of professionals will result in a review to be used to direct the course of major changes and /or updates in program and research.

Also, peer review processes will consist of state program reviews by internal and external extension and research professionals from both land-grant universities of the state. Also, local county program reviews conducted by advisory groups at the county level will be used to guide the program and research direction of the planned programs of the POW. Local program reviews will be conducted in targeted counties by ASUEP each year by regional coordinators, advisory councils and program committees for review to conduct a merit review and provide comments on the effectiveness of program impact. The research program will be reviewed annually by scientific peers and stakeholder groups to evaluate the relevance of research priorities, the thoroughness of research procedures in individual projects, project outcomes, publications, direct and indirect impact of the project on the stakeholders. Internal evaluators will consist of administrators and School of AREAS' scientists not directly associated with the planned programs. Expert reviewers and peer review participants will be selected from governmental agencies (state and federal), other universities, and local officials directly related to the commodities or other outputs of the research.

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 proposed planned programs will address the strategic issues identified by the stakeholders by achieving goals in response to high priority issues to each of the eight planned programs as listed below: 1) Global Food Security and Hunger, 2) Climate Change, 3) Sustainable Energy, 4) Food Safety, 5) Childhood Obesity, 6) Youth, Family, Nutrition, Health, Fitness and Wellness, 7) The Small Family Farm Enterprise Financial Analysis, Management, and Marketing, and 8) Community Resource Development and Economic Planning.

Global Food Security and Hunger planned program ultimate goal is to improve the profitability of livestock and poultry produced by limited-resource farmers; improve the quality of meats through research and appropriate educational program; enhance income potential of limited-resource farmers through sustainable production of food and fiber; and to develop community-based approaches to sustainable food production and overall security.

Climate Change planned program ultimate goal is to enhance the income potential of the Mississippi limited-resource farmers by increasing alternative crops yields through sustainable production practices and protecting the environment.

Sustainable Energy planned program ultimate goal is to apply an advanced composting technology to precipitate struvite from animal waste for sustainable crop production and study the leaching characteristics of the struvite under greenhouse and field conditions.

Food Safety planned program ultimate goal is to deploy non-chemical methods of control and preserving natural enemies of the insect pests to encourage the utilization of non-chemical management tactics.

Childhood Obesity planned program ultimate goal is to reduce incidences of childhood overweight /obesity in Mississippi through the development and implementation of nutrition and physical activity intervention programs and services.

Youth, Family, Nutrition, Health, Fitness and Wellness planned program ultimate goal is to enhance coping skills of youth by developing decision-making, communication and refusal skills; to help youth resist risky behaviors and to have the ability to address relevant issues in their daily lives.

The Small Family Farm Enterprise Financial Analysis, Management, and Marketing planned program ultimate goal is to enhance the economic viability of small and limited-resource farm families by strengthening their technical knowledge, skills and economic decision making so that they can contribute fully to the agricultural economy.

The Community Resource Planning & Economic Development planned program is formulated with a unifying goal to better understand the problems and issues that rural and urban communities encounter in southwest Mississippi. A collaborative effort between the Extension and research staff will promote best community and economic development practices that will reduce problem in rural and urban communities. This methodology will strengthen the capacity of communities while developing their skills in the areas of leadership development, business development, non-profit development, cooperative development, and workforce (career) development.

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

The eight planned programs of the Joint Extension and Research Plan of Work (POW) of AREAS address the needs of the under-served primarily through the implementation of its mission to address issues for improving the quality of their lives of people in targeted regions of Mississippi. The stakeholder input highlighted priority issues that the seven planned programs are in response regarding issues being experienced by limited-resource citizens of the Capital River, Coastal and Delta regions of the state. The planned programs are addressing issues of the underserved population focusing on youth-at-risk, single parents and families and limited-resource families. The eight planned programs will constantly explore ways to modify its programming efforts by expanding it into different formats to make adjustments to various cultural and socio-economic realities of rural Mississippi and to facilitate the involvement of diverse under-represented populations. Alcorn State University Extension Programs have identified regions of Mississippi where there is a concentration of under-represented populations of the State. These regions have been of considerable interests to our programs in the past and will receive significant attention in the future.

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

The expected outcomes and impacts of all planned programs are outlined in terms of short, mid-term and long-term outcomes, considering inputs and outputs of Extension and Research of the School of AREAS. The short-term outcomes were described in terms of the expected knowledge to be gained and increased awareness of information related to key issues of the five planned programs of the POW being experienced by limited resource audiences. The mid-term outcomes focus on the development, adoption and use of information related to key issues facing limited resource citizens. The long-term outcomes of the seven planned programs are described through the documentation of changes; increases and decreases observed regarding key issues affected by limited resource citizens. (See outcomes of planned program of the POW).

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

The planned program are designed to respond to the needs of limited-resource citizens of Mississippi. The implementation of the planned program of School of AREAS carry out its mission and achieving its vision. Additionally, the planned programs have been logically

designed through combined Research and Extension Programs to address key issues of limited-resource citizens and determined expected outcomes of the planned programs utilizing FTE and SYS resources of Extension and Research of the School of AREAS, which includes adding new resources to satisfy the objectives of the POW. Also, various assumptions of the planned programs have been identified that allows Extension and Research to enhance our efficiency in addressing key issues of limited-resource citizens of the state of Mississippi to be proactive rather that reactive which should enhance our efficiency in addressing key issues of limited-resource citizens of the state of Mississippi.

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
- ☐ Survey of the general public
- ☑ Survey specifically with non-traditional groups
- ☑ Survey specifically with non-traditional individuals
- ☐ Survey of selected individuals from the general public
- ☐ Other

Brief explanation.

The use of local and regional print, broadcast and interactive media through existing communications vehicles will be explored to establish Extension and Research as relevant, practical and comprehensive information resource for Mississippi residents. Also to seek stakeholders input to encourage their participation. The School of AREAS' Research and Extension efforts will increase the exposure to seven planned programs through various outlets to increase involvement and participation. Local planning committees will be formed in each county to recruit, plan and implement public interaction, (e.g., town hall meetings, and focus groups sessions). Several of these activities are ongoing. Invitations will be distributed at public meetings and listening sessions; utilizing letters, flyers, will be provided to targeted traditional and non-traditional stakeholder individuals and groups, to elected and governmental officials, local institutions, organizations and agencies to seek diverse stakeholders of the population in limited-resource communities. Efforts will be made during Town Hall meetings and focus group sessions to increase awareness of the mission of AREAS. In addition, to sharing our capacity and collaborative, the primary goal is to facilitate greater access to our limited-resource customers and to communicate about the planned programs. The Media and Communications unit will publicize and market research efforts and educational programs, events and activities that are conducted at the state and county levels. One-on-one contact with target clientele of the planned programs will be conducted through an Individual Client Survey Plan to seek input from stakeholders. Stakeholder input is also obtained in collaboration between Extension and Research, with active participation of extension professionals and researchers who will participate in future meetings. The data of the client survey plan outcome will be used in designing research projects and educational programs events and activities that address

stakeholders' needs. Some research projects of the planned program requires the administration of surveys to non-traditional groups (e.g., cooperatives) or farmers, rural families, and other affected by the research program of the School of AREAS at Alcorn State University. Survey instruments are carefully designed to examine characteristics directly related to specific objectives of the project. These survey instruments are tested for validity and evaluated to ensure that they contain questions safeguarding the dignity and respect of survey participants. While research projects of planned program are designed so that experiments are conducted on farmers land, and the farmers participate in the research. This allows the individual farmer to provide input and observe the outcomes of the research.

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
- ☐ Other

Brief explanation.

Multiple approaches will be taken to seek stakeholder input. The approaches include formal surveys, focus groups, key informant approaches, advisory councils (collaborating groups, agencies, and organizations) and combinations of the preceding methods. Efforts will be made to ensure that the stakeholders involved were representatives of the limited-resources households in terms of geographic location, family status, income level, age, gender, disability status, and users or non-users of existing educational programs.

Guideline manuals were designed for collecting data from stakeholders to accomplish the program priorities within ASU Extension Program and Research. The manuals were used to train ASU Extension Program county and campus-based educators and staff. The guidelines provide instructions on how to conduct public surveys, meetings, collect data and summarize the issues for future action plans. The materials were also used with county government oversight committees and advisory committees to help them better understand the importance of seeking a broad base of stakeholder input at the community level.

Some of the environment scanning tools that will be used (and have been used in the past) by ASU Extension Program to collect stakeholder input data and its subsequent analysis include the following groups. Advisory Councils assist Area Extension Educators with identifying and engaging local advisory councils to gather information about the needs and issues in local counties. The Extension Advisory Council provides recommendations and identifies issues for educational programming. The Research Advisory committee will include researchers from USDA and State agencies, business representation and commodity groups.

The Town Hall meeting was implemented to identify issues or needs of limited-resource citizens in counties targeting the general public. Information from the analysis of the issues facilitates programming and research efforts through an action-based team response to the critical issue identified from the analysis. Open listening sessions and needs assessments will be conducted jointly between research and extension.

A series of focus groups sessions was implemented to further prioritize the issues identified in the public hearings (e.g., town hall meeting). The focus group session was

convened at different timeframes in targeted counties to maximize input from a broad participant base.

The Individual Client Service Plan (ICSP) is an individual or family need assessment instrument to collect information on relevant needs and issues of limited-resource clientele to enable state researchers and extension specialists and county staff to provide educational programs, information and activities and appropriate technical assistance regarding issues. These four data input components granted the Alcorn State University Extension Program the means to access, analyze issues and needs, and implement programs appropriate to issues of limited resource citizens. A computation of the findings was converted into a county cluster matrix to enhance the issue identification processes of limited-resource communities.

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)
- ☐ Survey of the general public
- ☑ Meeting specifically with non-traditional groups
- ☑ Survey specifically with non-traditional groups
- ☑ 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
- ☐ Other

Brief explanation.

The Town Hall Meetings are structured to provide a simplistic means of collecting data. The meetings are planned in detail and executed to facilitate the gathering of pertinent information that would assist the Alcorn State Extension Program in identifying the critical needs/issues of limited-resource communities as the populace of the communities viewed them. These meetings are a platform created for the residents in limited-resource and disadvantage communities to give voice to their needs and concerns. The setup and conducting of the meetings were handled in a manner that made them feel comfortable expressing their thoughts. The role of the program was to listen and support the open discussion of their expressed issues and perspectives in a way that promoted engagement of all participants.

Alcorn State University Extension Program developed the Individual Client Service Plan (ICSP) as a proactive approach to assess and determine the most effective method in allocating limited personnel and resources, (technical and practical) in address the increasing critical needs of the citizens in the state of Mississippi. The major objective was the development of a comprehensive assessment instrument, implementation of the correct recommended educational activities. The approach of the ASUEP ICSP is five-fold 1.) a comprehensive assessment of resources and limited-resource clientele needs; 2) analysis of

data collected on individual families; 3) rapid response to the urgency of the individual families and/or clientele; 4) resource persons required to implement recommendations and 5) implementing the ICSP activities to achieve outcomes.

The Extension Advisory Council provides useful information on the Extension education process. The principles of program building involve group action, or organization, and individual action. The Extension Advisory Council makes recommendations and helps build the Extension educational program. Program building is not a ritual we go through for its own sake. Involving local people in planning, implementing, and evaluating educational programs is essential to Extension's mandate. County advisory groups are the basis of a grassroots organization and are the source of leadership for the county. The number and type of advisory councils or committees in counties are determined by the variety of committee and social conditions.

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
- ☐ Other

Brief explanation.

The stakeholder input process is very helpful in refocusing and reaffirming priorities on an ongoing basis. The process is also critical in identifying emerging issues. However, some stakeholder groups have had difficulty seeing beyond the critical issues they face today. As a result, the ASUEP team will compile and disseminate trend analysis to help stakeholders identify issues and pitfalls of the future. The environmental scanning system, a grassroots information gathering approach, determines how ASU Extension and Research directs or redirects its research and programming efforts and set priorities. The aim of data gathering is to set aside preconceptions about the high priority issues of limited-resources audiences. The data collected from various environmental scanning tools as mentioned above adopted by ASU Extension and Research was used to identify local issues, concerns and programming gaps. The local issues, concerns and programming gaps were gathered on a statewide basis and made available for review by all county and campus based extension educators and other staff within the ASU Extension and Research Program. Finally, the issues were prioritized by the state and county staff and ASUEP/ Leadership and Management Committee. The Leadership and Management committee developed a restructuring plan for ASUEP based on stakeholder input findings. Prioritization of issues in program areas: Agriculture/Environment- Lack of farm financial management- Limited knowledge of production, management, and marketing practices for alternative enterprises Nutrition and Health- High rate of obesity (adult/childhood)- High incidence of chronic disease. Youth Development- High incidence of risky behavior engaged in by youth such as tobacco, drugs and alcohol abuse-High rate of teen pregnancy. Child and Family Development- High rate of single parent families- Limited parenting skills. Community and Economic Development- Lack of jobs (youth and adult)-Limited community leadership skills. Additionally, the

geographic focus of extension and research efforts will focus primary on the aforementioned issues in the Capital River, Delta, and, Coastal. Less emphasis will be placed on other regions of the state and will be served through other delivery mechanisms. Staffing arrangements and budgetary considerations were based on incidence of programming factors and where the greatest need of the limited-resource population existed. Action plans will be developed and shared with stakeholders concerning action to be taken to address issues and to form partnerships with local leaders and other agencies and organization to respond to issues identified from the analysis of data gathered through various processes of the environmental scanning system.

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Global Food Security and Hunger
2	Small Family Farm Enterprise Financial Analysis & Marketing
3	Youth, Family, Nutrition and Health, Fitness and Wellness
4	Climate Change
5	Food Safety
6	Sustainable Energy
7	Childhood Obesity
8	Community Resource Development and Economic Planning

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger

2. Brief summary about Planned Program

The planned program is formulated with a unifying goal to better understand the problems and issues on global food security. A multi-disciplinary team of agricultural scientists and professionals have been brought together to develop and promote best practices that are likely to help resolve the problems of hunger and food insecurity. Partnerships among researchers in plant science, animal science, and agricultural economics will explore strategies to strengthen the capacity of communities to have access to sufficient, safe, and nutritious food to meet the needs of people and improve their quality of life. The interdisciplinary team will work towards the achievement of specific objectives which include: (1) promoting reproductive efficiency and nutrient utilization of livestock; (2) enhancement of healthcare management and genetic improvement of animals for proper selection of breeding stock; (3) development of technologies to improve the production of alternative crops, maximize their economic value while minimizing adverse impact on the environment; and (4) utilization of research tools and economic models in agricultural production, farm management, marketing, finance, and community development to create policies designed to achieve long term food security. The program will serve to consolidate and complement food policy by engaging related disciplines into identifying ideas and strategies that can be of long-term benefit to communities. All collaborators have committed themselves to work with this program to ensure that it complements their work in different areas of agriculture.

3. Program existence :

- ◯ New (One year or less)
- ◉ Intermediate (One to five years)
- ◯ Mature (More than five years)

4. Program duration :

- ◯ Short-Term(One year or less)
- ◯ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ◯ No

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

- ◯ Yes
- ◉ No

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%		10%
205	Plant Management Systems		15%		15%
211	Insects, Mites, and Other Arthropods Affecting Plants		10%		15%
213	Weeds Affecting Plants		5%		5%
301	Reproductive Performance of Animals		10%		10%
302	Nutrient Utilization in Animals		10%		5%
303	Genetic Improvement of Animals		5%		5%
308	Improved Animal Products (Before Harvest)		5%		5%
311	Animal Diseases		10%		10%
501	New and Improved Food Processing Technologies		5%		5%
602	Business Management, Finance, and Taxation		5%		5%
603	Market Economics		10%		10%
	Total		100%		100%

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

1. Situation and priorities

Estimated prevalence rates of food insecurity from 2006 to 2008 ranged from 6.9 percent in North Dakota and the highest rate of 17.4 percent in Mississippi (USDA-ERS, 2008). A majority of Mississippians are reported to have to choose between paying for food and paying for utilities or medical care. Furthermore, increases in the number of clients who come to emergency food program sites are prevalent in the state. A great number of counties in Mississippi are largely socio economically depressed and faces other problems that contribute to further deterioration of social and physical infrastructure as well as economic decline. These are factors that have, no doubt severely constrained economic development throughout the state. Plant and livestock research scientists in the Department of Agriculture at Alcorn State University have identified constraints such as poor breeding system, and veterinary management, insufficient utilization of feedstuff, weakness of the marketing system. Limited-resource farmers often grow and market fresh fruits and vegetables (alternative crops); however, because of the lack of knowledge on new production and distribution techniques, they are not able to maximize the yield per acre, increase income and enhance quality of life.

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

It is assumed that the planned program will work successfully because its objectives are grounded in science and research. The mandate of the program is agriculture which encompasses a synergy among crop production, animal production, and community resource development programs. The collaboration among scientists in the School of AREAS recognizes the strength of people and programs working together in the achievement of common goals to create solutions towards global food security. The attainment of planned programs and activities are within the realm of achievement for our experienced and committed scientists and professionals at Alcorn State University. Researchers in the Department of Agriculture at Alcorn assume that limited-resource livestock and alternative crop producers are not fully aware of the management practices that may help to maximize their operations for economic viability and sustainability. With contributions from the School of AREAS, appropriate production practices will be identified and utilized for the profitable production of food and fiber. This program assumes full participation of the research units, limited-resource farmers, extension workers, concerned groups and organizations as well as members of the community in the attempt to understand the factors affecting food security.

2. Ultimate goal(s) of this Program

The ultimate goals are: (1) to improve the profitability of livestock and poultry produced by limited-resource farmers; (2) to improve the quality of meats through research and appropriate educational program; (3) to enhance income potential of limited-resource farmers through sustainable production of food and fiber; and (4) to develop community-based approaches to sustainable food production and overall security.

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
2012	0.0	20.0	0.0	30.0
2013	0.0	21.0	0.0	30.0
2014	0.0	22.0	0.0	30.0
2015	0.0	22.0	0.0	30.0
2016	0.0	22.0	0.0	22.0

V(F). Planned Program (Activity)

1. Activity for the Program

The program will utilize an interdisciplinary team in agriculture to explore food insecurity issues and identify strategies to find solutions as a means of impacting the community through research and educational programs. Research in plant and animal production as well as in agricultural economics will be conducted to identify ways by which hunger and food insecurity can be alleviated and eventually eradicated. Research will be conducted by synthesizing existing knowledge and new findings in agricultural sciences. The educational program will provide a wide range of demonstrations, farm tours, group meetings, seminars, applied research, and one-to-one intervention. The indirect activities will include public service announcements, dissemination of newsletters, development of websites, research publication reports, information sheets, and publications in scientific journals. These activities will be geared towards increased food production, availability, and access.

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

Extension

Direct Methods	Indirect Methods
☐ Education Class	☑ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☐ TV Media Programs
☑ Demonstrations	☑ Web sites
☑ Other 1 (Curriculum Development)	☑ Other 1 (Reports)
☐ Other 2	☑ Other 2 (Patents)

3. Description of targeted audience

This program will be designed specifically for the limited-resource farmers and rural dwellers within

the State of Mississippi. We hope to provide the farmers and dwellers in Mississippi and the nation with findings related to sustainable production, preservation and utilization of identified alternative crops.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	2500	5000	250	300
2013	3000	6000	250	300
2014	3000	6000	350	400
2015	3000	6000	350	450
2016	3000	6000	350	350

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	3	1	4
2013	3	1	4
2014	3	1	4
2015	4	1	5
2016	4	1	0

V(H). State Defined Outputs

1. Output Target

- Development of research papers and publications of the findings of studies focusing on plant systems.

  2012:25 **2013:**30 **2014:**35 **2015:**37 **2016:**39

- Conduct educational programs for limited-resource farm families and youth in communities on soil, plant, water, and nutrient relationships.

  2012:28 **2013:**30 **2014:**32 **2015:**33 **2016:**34

- Conduct educational activities(demonstrations and workshops) for limited-resource farm families and youth in communities on plant management systems.

  2012:25 **2013:**28 **2014:**30 **2015:**31 **2016:**32

- Conduct educational field days for limited-resource farm families and youth on sustainable crop production practices.

  2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**4

- Conduct educational tours for limited-resource farm families and youth on sustainable crop production practices.

  2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**4

- Conduct educational training on sustainable horticulture production practices to limited-resources farm families.

  2012:8 **2013:**10 **2014:**10 **2015:**10 **2016:**10

- Develop educational fact sheets on sustainable horticulture production practices to limited-resources farm families.

  2012:8 **2013:**10 **2014:**12 **2015:**12 **2016:**12

- Number of Research Projects

  2012:4 **2013:**4 **2014:**0 **2015:**0 **2016:**0

- Conduct educational workshop for limited-resource farm families on forest soil erosion/management.

  2012:12 **2013:**15 **2014:**18 **2015:**0 **2016:**0

- Conduct educational demonstrations for limited-resource farm families on best management practices and best available technologies.

  2012:8 **2013:**8 **2014:**10 **2015:**0 **2016:**0

- Conduct educational programs, activities or events on forage production practices for limited-resource farm families

  2012:8 **2013:**10 **2014:**12 **2015:**14 **2016:**16

- Conduct educational programs, activities or events to improve herd genetics for limited-resource farm families.

  2012:10 **2013:**12 **2014:**14 **2015:**17 **2016:**19

- Conduct educational programs, activities or events on pastured livestock production practices for limited- resource farm families.

  2012:11 **2013:**13 **2014:**15 **2015:**17 **2016:**19

- Conduct educational programs, activities or events on reproduction performance, nutrient utilization in animals to decrease livestock production cost for limited-resource farm families.

  2012:11 **2013:**13 **2014:**15 **2015:**17 **2016:**19

- Conduct educational programs, activities or events on alternative livestock production practices for limited- resource farm families.

  2012:6 **2013:**8 **2014:**10 **2015:**12 **2016:**14

- Number of research publications published in the field on animal/meat production systems.

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Number of research based reader friendly pamphlets and leaflets developed for extension educators for farmers and farm families.

  2012:5 **2013:**7 **2014:**9 **2015:**11 **2016:**12

- Develop M.S. thesis on animal production systems.

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase percentage of program participants to adopt integrated nutrient management to increase crop production.
2	Increase percentage of program participants to utilize integrated pest management to improve the quality of vegetable production.
3	Increase percentage of producers to adopt new crop systems to improve crop yield and quality.
4	Increase percentage of participants to improve product handling and sanitation.
5	Increase percentage of participants to use recommended cultivar and other production practices to enhance productivity and profitability.
6	Increase percentage of program participants to improve production efficiency through best management practices.
7	Increase percentage of producers that will improve pasture grass fed to livestock.
8	Increase percentage of farmers to utilize artificial insemination and/or embryo transfer to decrease the need to purchase quality male animals and improve herd genetics.
9	Increase percentage of farmers to adopt pasture systems for production and/or alternative livestock as an alternative enterprise.
10	Decrease in percentage of input cost of livestock production with the implementation of pasture systems for livestock production or best management practices.

Outcome # 1

1. Outcome Target

Increase percentage of program participants to adopt integrated nutrient management to increase crop production.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:30 **2013:**35 **2014:**40 **2015:**40 **2016:**40

3. Associated Knowledge Area(s)

- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☐ 501 - New and Improved Food Processing Technologies
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 2

1. Outcome Target

Increase percentage of program participants to utilize integrated pest management to improve the quality of vegetable production.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:25 **2013:**30 **2014:**35 **2015:**35 **2016:**35

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 205 - Plant Management Systems
- ☑ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☐ 501 - New and Improved Food Processing Technologies
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 3

1. Outcome Target

Increase percentage of producers to adopt new crop systems to improve crop yield and quality.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:20 **2013:**25 **2014:**30 **2015:**30 **2016:**30

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☑ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☐ 501 - New and Improved Food Processing Technologies
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 4

1. Outcome Target

Increase percentage of participants to improve product handling and sanitation.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:25	**2013:**30	**2014:**35	**2015:**0	**2016:**0

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☑ 501 - New and Improved Food Processing Technologies

- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 5

1. Outcome Target

Increase percentage of participants to use recommended cultivar and other production practices to enhance productivity and profitability.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:30 **2013:**35 **2014:**40 **2015:**0 **2016:**0

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☑ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☑ 501 - New and Improved Food Processing Technologies
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 6

1. Outcome Target

Increase percentage of program participants to improve production efficiency through best management practices.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:35 **2013:**35 **2014:**0 **2015:**0 **2016:**0

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☑ 501 - New and Improved Food Processing Technologies
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 7

1. Outcome Target

Increase percentage of producers that will improve pasture grass fed to livestock.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:25 **2013:**20 **2014:**20 **2015:**25 **2016:**25

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☑ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☐ 501 - New and Improved Food Processing Technologies
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 8

1. Outcome Target

Increase percentage of farmers to utilize artificial insemination and/or embryo transfer to decrease the need to purchase quality male animals and improve herd genetics.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:9 **2013:**11 **2014:**13 **2015:**15 **2016:**15

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☑ 303 - Genetic Improvement of Animals
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☐ 501 - New and Improved Food Processing Technologies
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 9

1. Outcome Target

Increase percentage of farmers to adopt pasture systems for production and/or alternative livestock as an alternative enterprise.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:14	**2013:**16	**2014:**18	**2015:**20	**2016:**22

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☑ 308 - Improved Animal Products (Before Harvest)
- ☐ 311 - Animal Diseases
- ☐ 501 - New and Improved Food Processing Technologies

- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 10

1. Outcome Target

Decrease in percentage of input cost of livestock production with the implementation of pasture systems for livestock production or best management practices.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:15 **2013:**20 **2014:**20 **2015:**25 **2016:**25

3. Associated Knowledge Area(s)

- ☐ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 205 - Plant Management Systems
- ☐ 211 - Insects, Mites, and Other Arthropods Affecting Plants
- ☐ 213 - Weeds Affecting Plants
- ☐ 301 - Reproductive Performance of Animals
- ☐ 302 - Nutrient Utilization in Animals
- ☐ 303 - Genetic Improvement of Animals
- ☐ 308 - Improved Animal Products (Before Harvest)
- ☑ 311 - Animal Diseases
- ☐ 501 - New and Improved Food Processing Technologies
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 603 - Market Economics

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.)
- ☑ Other (Personnel availability)

Description

Natural Disasters such as drought and hurricanes are external factors which can negatively impact the planned program area. Agricultural enterprises operate in a complex and volatile environment, involving susceptibility to weather which prevents or delays planting and drought conditions that reduces yield and quality of the crop.

Public Policy changes- Another constraint that may affect outcomes is public policy, especially those relating to comparative prices of inputs and harvested crops. If it is politically feasible to provide farmers a high price for their product while holding down input cost, farmers will utilize the inputs as they accept the new technology.

Government Regulations-changing government regulations such as competitive land uses, shifting development patterns and global market influence. Populations changes (immigration, new cultural groupings, etc.)- Population changes in farming communities can lead to producer/neighbor issues that influence choice of production practices.

Agricultural/horticultural enterprises operate in a complex and volatile context involving susceptibility to weather extremes, changing governmental policies and regulations, competitive land uses and shifting development patterns, evolving consumer demands, and globally influenced markets. Fundamental change is occurring in the state and regional economies within which agricultural and horticultural enterprises operate. The specific implications of these external factors vary greatly by locale and across commodities and business forms. Population and land use changes in farming communities can lead to producer/neighbor issues that influence choice of production practices.

Legislative policies and variations in appropriation priorities may affect funding. This shift will hamper funding for community and economic development projects. Federal and local government policies may change which would constrain some of our programs. Local community and municipalities may enact laws and regulations in certain communities that would likely counter some of the programs and policies articulated by the project. Laws in the area of interest change, public policy changes, social, economic and demographic changes in various communities may force certain authorities to modify their public priorities. Pending changes in immigration laws may affect migration and other demographic issues, public policies and may affect program priorities.

Livestock enterprises operate in a complex and volatile context involving susceptibility to weather extremes, changing governmental policies and regulations, competitive land uses and shifting developmental patterns, evolving consumer demands, and globally influenced markets. Fundamental change is occurring in the state and regional economies within which agricultural and horticultural enterprises operate. The specific implications of these external factors vary greatly by locale and across commodities and business forms. Population and land use changes in farming communities can lead to producer/neighbor issues that influence choice of production practices. The outcome of this problem will

be influenced mainly by such external factors as variations in climate during each growing season, inadequate appropriations, public policy changes, and governmental regulations. The ability or willingness of younger men and women to become involved in production agriculture will enhance productivity and profitability.

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

1. Evaluation Studies Planned

- ☐ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☐ During (during program)
- ☐ Time series (multiple points before and after program)
- ☑ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☑ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Comparison of crop performances under improved production practices with those produced under the conventional production practices. Comparisons of quality of crops produced and additional income to be generated by the farmers who adopted such resources/program, with those still using conventional production practices. The outcome of this problem will be influenced mainly by such external factors as variations in climate during each growing season, inadequate appropriations, public policy changes, and government regulations. The ability or willingness of younger men and women to become involved in production agriculture will enhance productivity and profitability.

Research will be evaluated according to its relevance to Mississippi and the nation. Productivity will be a measure of the number of publications in refereed journals and other delivery methods. It will also be measured by the extent to which the farmers are switching to alternative crop production through sustainable agronomic production practices. The extent to which our findings will enhance scientific studies in other institutions will serve as another evaluation measure of our efforts.

The success and accomplishments of this project will be evaluated based on the following measures: (a) the number of communities and county officials showing interest in and wanting to continue support for the project in consecutive years; (b) degree of improvement in the attitudes and experiences of the residents in terms of social consciousness and appreciation for community life and the needs of the poor. These are critical criteria for testing the effectiveness and accomplishments of a project of this nature. No matter how elaborate a behavioral research/extension project associated with a educational institution is or how enthusiastic the faculty and extension staff are, unless in the end, communities of reference benefit, and the experiences of the residents are changed so that attitudes, participation and outreach outcomes are better than before, the work cannot be considered successful. (c) The amount of additional financial support received and the number of cooperating organizations involved each year, over the life of the project. (d). Participants of all community resource development activities will be requested to evaluate, submit comments and reflections for the relevance of the educational programs(e) Peer reviews will be done on an ongoing basis by researchers, sociologists

and extension professionals within the extension and academic communities. Effort will be made to ensure that peer reviews are done through area professional publications both internally and externally. The evaluation of the plan and best practices will be ongoing and the assessment by stakeholders and clients will address final impact at the conclusion of the projects.

Research will be evaluated according to its relevance to the needs of limited resource clientele in Mississippi. The documentation and dissemination of research resultss in this area will be the evaluated through publications, presentation and adoption of animal production practices based on the results of research. Evaluation instruments will be developed and utilized by participants in extension programs. An evaluation form will be used to assess program effectiveness with limited resource audiences. Input will be solicited from stakeholders for use in planning future programs.

2. Data Collection Methods

- ☐ Sampling
- ☑ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☐ On-Site

Interview

- ☐ Structured
- ☐ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☑ Tests
- ☑ Journals
- ☐ Other

Description

Soil sampling will be used to determine nutrient requirements for crop evaluation studies. Questionnaires to be completed by limited resource farmers and the community will be used to determine crop production and forest soil erosion problems in the State of Mississippi. Personal observation and communication will also be used to identify major crop of interests to growers. The impact of all field management practices would be observed and findings reported. Statistical analysis to be used to compare findings from these studies will depend on experiment design and outcome desired. Data collection on growth and yield components will be based on the procedures established by the American Society of Agronomy and Horticulture. Journals will be used to collect information on previous work related to the project.

Census data will be compiled and analyzed to delineate various aspects of the social, economic and demographic features of the respective communities. • Comprehensive survey instruments will be developed and used to collect pertinent data on human capital development, labor and social psychological issues within the community study areas• Standard mailing and telephone sampling techniques will be used to select and collect respondents data.• Questionnaires will be pre tested in each of the study areas before they are actually administered. Criteria for an acceptable response rate

of return of questionnaires will be developed by the principal investigators• Various statistical tests will be used to evaluate the reliability of the secondary data.• Labor economic interviews, sampling and polling will be conducted in targeted communities • Reliability coefficient tests will be done to estimate and determine the reliability and consistency of the data.• Observations will be documented of community leaders implementing and completing ongoing local community and economic projects.

Research will be evaluated according to its relevance to Mississippi and the nation.Productivity will be measured by publication in scientific and popular literature and other means of communicating results as well as amount of external funding.Interdisciplinary research is encouraged, bringing together expertise to address the broad-based issues that face animal agriculture.All evaluations will go through the Research Director or Dean.The Dean will use these evaluations for program development.Program success is important in deciding where future school resources will be used.

Extension will be evaluated by participants in extension programs. An evaluation form will be used to assess program effectiveness.Input is also solicited from extension agents and advisory committees.This information is used in planning future programs.Interdisciplinary and multi-state programs are encouraged to improve quality and efficiency.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Small Family Farm Enterprise Financial Analysis & Marketing

2. Brief summary about Planned Program

The Small Family Farm Enterprise Financial Analysis, Management, and Marketing planned program implemented various education programs in counties to address Global Food Security and Hunger by staring within the state of Mississippi that can be used globally. This planned program will focus on the adoption of new techniques/methods for rapid agricultural development in order to increase agricultural production and eventually to minimize the high level of risk experienced by small and limited-resource family farmers. Efforts will be to continue to delivery effective methods fostered in encompassed workshops, traditional and nontraditional educational classes, group meetings, one-on-one technical assistance, field days, tours, small farmer conferences, exhibit, displays, and farm visits. Traditional methods of indirect contact of delivery will continue utilizing the dissemination via public media outlets through public service announcements, news bulletins, media, programs and web sites. These methods will also be used in implementing the marketing and distribution practices.

3. Program existence :

- ○ New (One year or less)
- ◉ Intermediate (One to five years)
- ○ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ○ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ○ Yes
- ◉ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management		30%		0%
602	Business Management, Finance, and Taxation		40%		0%
604	Marketing and Distribution Practices		30%		0%
	Total		100%		0%

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

1. Situation and priorities

Small and limited-resource farm families (e.g., farms generating less than $100,000 annual sales) constitute approximately 90% of Mississippi's 41,959 farms, according to the 2007 Census of Agriculture (USDA, NASS, 2003). Small and limited-resource farmers are important to Mississippi's economy because of the exceptional nature of farm composition in this state. A significant percentage of farmers are small and limited-resource farm families in the service area of the Alcorn State University Extension Program, which includes all of Southwest Mississippi, a portion of the Coastal and Delta areas. These farmers are engaged in a variety of crop and livestock enterprises, including traditional field crops, beef, and new alternatives agricultural enterprises targeted to niche markets. Still agriculture and forestry contributes extensively to the economy of the State of Mississippi, producing more than $ 5 billion worth of to this economy. The incomes that are created in agriculture and forestry generates more than $20 billion impact on the overall state economy via multiplier effects. The small farmers in the state of Mississippi are facing numerous challenges having negative impact on financial and economic performance. Fox et. al. (1993), Sonka, et al. (1989), Abbott and Yarbrough (1993), are examples of past studies that investigated large farms managerial performance and income variability, and computer technology use in decision making. Similarly, some past studies have examined the effects on farm management, marketing, policy and farm structure from the perspective of small and limited-resource farmers (Nelson et al., 1999; Anderson and Roth, 1997; Gebremedhin and Christy, 1996).

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

An assumption of the planned program is by providing technical assistance in financial management that the farmers' profit will increase; the farmers' debt will decrease and their quality of life will improve. A second assumption is that farmers will adapt the best business management practices to increase their

chances of getting a loan and other assistance made available by both federal and state agencies. The planned program is expected to increase the knowledge of small and limited-resource farmers in farm management, business management, finance, marketing and distribution of farm products. Also that personnel/FTE allocation and funding are internal variables that will negatively impact the program's ability to achieve the intended outcomes. The targeted audiences of this planned program are expected to be small and limited-resource farmers with varying educational background and limited access to capital for startup. Other factors may affect their ability to participate in programs which will influence proposed outcomes. Another assumption is that limited-resource farmers and producers have a desire to improve their current situation. Additionally, the existing county staff will provide adequate liaison between the state staff in the effective implementation of programs for participating farmers. Profitable marketing is assumed to require a commonsense approach in deciding at what price to sell or buy and by what method to establish that price as well as other marketing strategies. The decision of how to market and at what price requires an informed understanding of how markets work and why prices move up and down; also, understanding that a mixture of marketing methods and tools helps in making the precise marketing decisions.

2. Ultimate goal(s) of this Program

The ultimate goal is to enhance the economic viability of small and limited-resource farm families by strengthening their technical knowledge, skills and economic decision making so that they can contribute fully to the agricultural economy; better their own lives and the lives of their children or other dependents, ultimately benefitting the society as a whole in rural Mississippi.

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
2012	0.0	4.0	0.0	0.0
2013	0.0	4.0	0.0	0.0
2014	0.0	4.0	0.0	0.0
2015	0.0	4.0	0.0	0.0
2016	0.0	4.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The development of enterprise budgets; development of models of effective strategies; distribution of results will be emphasized in our programs, one small farmers conference presentation per year; one non-refereed publication per year; two presentations annually at meetings and workshops for farmers. Extension Programs will consist of the development (or identification) of relevant content materials to address knowledge gaps needed by farmers. Focus groups survey instruments will be developed. Various workshops, demonstrations, meetings, development of curricula, and other learning resources will be

utilized for effective program implementation. Evaluation assessment methods will be implementated to document the impacts of our programs.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☐ One-on-One Intervention	☐ TV Media Programs
☑ Demonstrations	☑ Web sites
☑ Other 1 (Field Days)	☑ Other 1 (Field Days)
☑ Other 2 (Conferences)	☑ Other 2 (Conferences)

3. Description of targeted audience

Small farmers, limited-resource farmers, family farmers, and disadvantaged farmers, low-income rural families.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	600	2400	200	225
2013	800	2600	250	275
2014	1000	2800	275	300
2015	1200	3000	300	325
2016	1400	3000	325	350

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	1	1

Year	Research Target	Extension Target	Total
2013	0	1	1
2014	0	1	1
2015	0	1	1
2016	0	1	1

V(H). State Defined Outputs

1. Output Target

- Conduct educational sessions on farm and financial management of farming operations.

  2012:12 **2013:**14 **2014:**16 **2015:**18 **2016:**20

- Conduct educational programs, events and activities on farm legal risk.

  2012:10 **2013:**12 **2014:**14 **2015:**16 **2016:**20

- Conduct educational programs events, activities and provide technical assistance on the farm loans and other governmental agencies requirements and application processes.
  2012:14 **2013:**16 **2014:**18 **2015:**20 **2016:**22

- Conduct demonstrations on record keeping of sales and expenses on farming operations and outreach centers.
  2012:8 **2013:**10 **2014:**12 **2015:**14 **2016:**16

- Conduct educational tours of marketing and direct marketing of goods and services.

  2012:2 **2013:**3 **2014:**3 **2015:**4 **2016:**5

- Conduct educational programs,events, and activities on the utilization of direct marketing techniques of agricultural goods and services.
  2012:8 **2013:**10 **2014:**12 **2015:**14 **2016:**16

- Development of fact sheets on marketing and direct marketing of agriculture and value-added goods and services.
  2012:3 **2013:**5 **2014:**5 **2015:**6 **2016:**6

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase percentage of farmers and producers to utilize knowledge gained on farm and financial management to minimize cost on their farm operations to increase production and revenues.
2	Increase percentage of limited-resource farmers and land owners to minimize land and farm loss.
3	Increase percentage of farmers to gain access to capital on their farming operations.
4	Increase percentage of limited-resource farmers to develop and utilize marketing plans.
5	Increase the number of farmers and cooperatives to demonstrate the use of marketing and direct marketing of agriculture goods and services.
6	Increase percentage of farm families to demonstrate the use of farm and financial management.
7	Increase percentage of small-scale and limited-resource farmers keeping records of sales and expenses.

Outcome # 1

1. Outcome Target

Increase percentage of farmers and producers to utilize knowledge gained on farm and financial management to minimize cost on their farm operations to increase production and revenues.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:17 **2013:**18 **2014:**20 **2015:**22 **2016:**24

3. Associated Knowledge Area(s)

- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☑ 602 - Business Management, Finance, and Taxation
- ☐ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Increase percentage of limited-resource farmers and land owners to minimize land and farm loss.

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ○ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:8 **2013:**10 **2014:**10 **2015:**12 **2016:**12

3. Associated Knowledge Area(s)

- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☑ 602 - Business Management, Finance, and Taxation
- ☐ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- [x] 1890 Extension
- [ ] 1890 Research

Outcome # 3

1. Outcome Target

Increase percentage of farmers to gain access to capital on their farming operations.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ○ Change in Action Outcome Measure
- ◉ Change in Condition Outcome Measure

2012:8 **2013:**9 **2014:**10 **2015:**11 **2016:**12

3. Associated Knowledge Area(s)

- [x] 601 - Economics of Agricultural Production and Farm Management
- [ ] 602 - Business Management, Finance, and Taxation
- [ ] 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- [x] 1890 Extension
- [ ] 1890 Research

Outcome # 4

1. Outcome Target

Increase percentage of limited-resource farmers to develop and utilize marketing plans.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:19 **2013:**22 **2014:**30 **2015:**35 **2016:**40

3. Associated Knowledge Area(s)

- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☐ 602 - Business Management, Finance, and Taxation
- ☑ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 5

1. Outcome Target

Increase the number of farmers and cooperatives to demonstrate the use of marketing and direct marketing of agriculture goods and services.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:19	**2013:**22	**2014:**30	**2015:**35	**2016:**40

3. Associated Knowledge Area(s)

- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☐ 602 - Business Management, Finance, and Taxation
- ☑ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 6

1. Outcome Target

Increase percentage of farm families to demonstrate the use of farm and financial management.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:8	**2013:**9	**2014:**11	**2015:**12	**2016:**14

3. Associated Knowledge Area(s)

- ☑ 601 - Economics of Agricultural Production and Farm Management
- ☐ 602 - Business Management, Finance, and Taxation
- ☐ 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 7

1. Outcome Target

Increase percentage of small-scale and limited-resource farmers keeping records of sales and expenses.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:6	**2013:**7	**2014:**9	**2015:**11	**2016:**13

3. Associated Knowledge Area(s)

- ☐ 601 - Economics of Agricultural Production and Farm Management
- ☑ 602 - Business Management, Finance, and Taxation
- ☐ 604 - Marketing and Distribution Practices

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.)
- ☐ Other

Description

External environmental factors that may affect the outcome of the planned program are: growth and availability of markets, domestic and international agricultural policies, USDA and state-funded programs affecting the clientele, the weather and related natural disasters.

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

1. Evaluation Studies Planned

- ☐ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☑ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☑ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Baseline data will be collected (or assembled) on the clientele in year one; the data will include demographic variables, skill levels, farm characteristics; acreage, crops and livestock produced, etc.Program evaluation will take place at the end of each year; summative program evaluation will be conducted in year 5.

2. Data Collection Methods

- ☐ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☑ Structured
- ☐ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☑ Tests
- ☐ Journals
- ☐ Other

Description

Evaluation processes (mail, telephone, on site, structured as well as unstructured processes) will be used to determine the management decision making knowledge and skills gained and adoption of research based techniques. Both before and after (before and after program) evaluation assessment, during (during program) time series (multiple points before and after program) will be implement for our programs.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Youth, Family, Nutrition and Health, Fitness and Wellness

2. Brief summary about Planned Program

Decreasing the prevalence of obesity among adolescent children in Mississippi requires focusing on the key risk factors and correcting them through behavior modification, decreasing caloric intake, increasing physical activity, and educational programs. There is a strong need for more prevention at a very young age, since an obese child will probably become an obese adolescent, and ultimately, an obese adult. However, if overweight/obesity or the risk of it is already present, then appropriate intervention should be readily available for the age group to prevent further weight gain as well as onset of hypertension, and

dyslipidemia in adolescent population.

The Youth, Family, Nutrition and Health, Fitness and Wellness Planned Program will utilized an integrated approach to address relevant issues facing youth and families. Stakeholders from our environmental scanning processes led to the integration of three planned programs into one. They identified a need for the Alcorn State University Extension Program to aid youth in resisting risky behaviors such as: tobacco use, high rates of teen pregnancy and infection rate of sexually transmitted diseases, increase dropout rates and juvenile delinquency and lack of recreation activities as relevant issues facing youth in the state. Also, other issues identified were the lack of skills that youth possess to enter in leadership roles and opportunities in schools and communities; lack of job preparedness/readiness and career and business development An area of the planned program with focus on youth-at-risk by exploring methods to provide support systems to aid youth in resisting risky behaviors such as teen pregnancy, STD's and tobacco use, dropouts, alcohol and drug abuse, juvenile delinquency, etc. Educational programs will develop negotiation, decision making and coping skills of youth to resist risky behaviors. Also, club

development/volunteer management to facilitate the organizing and managing of community-and school-based clubs will be implemented. Additionally, volunteers will be trained to work with youth in clubs to provide a variety of educational, cultural and citizenship opportunities. Youth leadership will be another emphasis of the program to enhance leadership competencies and the necessary personal, social and cognitive skills to become leaders in school and communities. Additionally, an emphasis will be on increasing limited-resource youth participation in leadership opportunities. Another focused area of youth development is on career development/workforce preparedness to develop job readiness skills to assist youth in the job searches and increased awareness of career options and youth business opportunities.

Additionally, the planned program will emphasize many issues facing the "Family", educational programs will implemented on providing an understanding of the social, cognitive, emotional, and physical development of children and families. Providing educational programs on Sudden Infant Death, Shaking Baby Syndrome and other educational program empower parents with the knowledge to provide qualitylearning environments for children. Creating healthy families will consist of developing parenting skills and quality child care and afterschool programs that promote quality learning environments. Family Resource Management, will also, be emphasized exploring strategies to assist youth and adults in families to obtain and manage money and financial resources effectively to meet present needs and future goals. Our stakeholders also identified the lack of parenting and money management skills; the lack of child care training and facilities and high rate of obesity among children, youth and adults. Another area of the

planned program focuses on Nutrition, Health, Fitness Wellness and Obesity programs to provide information about nutrition, health lifestyles and physical fitness. Current trends in obesity among African-American children, youth and adults remains the highest among all ethnic groups in Mississippi. Since obesity starts early in childhood and extends into the adolescent years and possibly into adulthood, intervention and or prevention strategies are necessary to addressing this issue. Nutrition behavior modification with healthy eating and increased physical activity are contributing factors to the prevention and management of obesity in all population groups. Also research conducted will be translated into practical application and dissemination of nutrition, health, physical fitness, wellness and obesity for youth and families in communities.

3. Program existence :

- ○ New (One year or less)
- ◉ Intermediate (One to five years)
- ○ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ○ Yes
- ◉ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior		20%		20%
724	Healthy Lifestyle		20%		20%
801	Individual and Family Resource Management		20%		20%
802	Human Development and Family Well-Being		20%		20%
806	Youth Development		20%		20%
	Total		100%		100%

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

1. Situation and priorities

In Mississippi youth are faced with staggering issues that put them at risk such as pregnancy, sexually transmitted diseases, and tobacco use. Mississippi has the one of the highest percentages of birth to teens in the nation of 17.1 percent. Of 214,190 girls' between ages 10 to 19, 7,583 became pregnant in 2002. Also in 2002, $2,831 dollars were spent on teen childbearing. For every dollar invested in teen pregnancy prevention $2.65 in medical and social cost are saved. In 2002, Mississippi State Department of Health (MSDH) reported many cases of sexually transmitted diseases, 11,815 cases of chlamydia, 6,859 cases of gonorrhea and 248 cases of syphilis. There were 379 new cases of HIV and 348 of AIDS. Sixteen percent of youth in Mississippi are in unsupervised care after school each day and these youth are more likely to become involved in risky behavior. Youth of limited-resource families experience fewer opportunities to become leaders and gain skills to enhance their own development to build their self-confidence within their schools and in communities. Also, due to limited financial resources they experience fewer chances to develop skills through involvement in school and community activities and events.

Another issue facing youth, was reported in the 2006 State Youth Tobacco Survey (YTS) which found that 22.4% of Mississippi's high school student's smoke and 15.5% of high school males use spit tobacco. Also, 6,800 students under the age 18 become smokers each year and 192,000 youth under18 are exposed to secondhand smoke at home each year. According to the Mississippi Labor Market Data, the unemployment rate of youth is 15 percent. Half of the graduating seniors in Mississippi will leave high school lacking the skills necessary to secure a job. The key to the future of rural youth and their communities will be investing in career development/ workforce and business programs.

Parents are faced with a significant number of issues in raising their families today. Annie E. Casey Foundation (2006) states that Mississippi statistics for children are alarming: one in four children spends part of their childhood in poverty, lives in a single parent household and are latch key children. One in six lack adequate health insurance, one in five become a teenage parent. According to the 2000 US Census, more than 2.4 million grandparents indicate they are responsible for meeting the basic needs of their grandchildren. Difficult situations such as poverty and violent communities or a lack of positive parenting techniques in the parents' backgrounds impede healthy family functioning. As a result of the lack of parenting education, child care, in the area of human development and family well-being, the emotional, physical and social welfare of individuals and family members are threatened.

Also, individual and family resource management research findings describe a challenging financial situation for many individuals and families. Consumer credit indebtedness is rampant and the number of personal bankruptcies continues to rise. The personal savings rate is lower than in any other industrialized nation. Few-limited resource individuals and families have adequately prepared to achieve financial goals and their basic personal financial management skills are at an all time low (Economic and Commerce, 2006).

Also, quite alarming is children, youth and adults in Mississippi suffer from an alarming rate of overweight and obesity that continues to rise. Overweight children significantly miss more school days and perform less well academically than healthy weight children. The risk factors for heart disease (such as high cholesterol and high blood pressure) and type 2 diabetes occur more frequently in overweight children, youth and adults. In the past ten years there has been a dramatic increase in the prevalence of type 2 diabetes in youth and adults. In addition to the health consequences, there are risks of developing potentially life-threatening psychological problems, such as, depression, eating disorders, discrimination and stigmatization, negative self-image, and passivity and withdrawal from peers. Mississippi is leading the nation in obesity and obesity related health conditions. Living conditions, behavioral factors, and lifestyles have been identified as some of the major factors responsible for excessive weight gain and obesity, and the lack of physical activity (J.P. Peter, 2002). In 2005, 66.7% of Mississippi adults were overweight. Obesity has been linked to the increased risk of chronic disease such as hypertension, type II diabetes, heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea and colon cancer. The goal of the Youth, Family Nutrition, Fitness, Wellness and Obesity planned program is to plan and deliver educational programs, activities and events that will enable at-risk limited-resource children, youth and families to address high priority issues they facing as stated above.

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

Situational barriers, lack of income and time can be possible barriers that prevent caregivers from participating in nutrition education programs on a regular basis. Aggressive recruitment strategies will be implemented to increase program participation. With innovative, non-traditional promotional advertisement of planned program, rural communities will welcome the opportunity to participate and volunteer to help with improving health conditions within their communities. Enhancement of program attendance will result in improved dietary status and maintaining proper management of chronic diseases. Training and implementation of nutrition health educational programs will slow down excess weight gain and prevent and/or delay the onset of nutrition-related chronic diseases. Disparities in the prevalence of overweight and obesity exist in many segments of the population based on race, ethnicity, gender, age and socioeconomic status. For example, overweight and obesity are particularly common among minority groups and those with a lower family income. Research will reveal the culturally appropriate health and nutrition promotion, prevention and treatment of obesity in underserved and underrepresented population groups. Furthermore, research efforts will uncover emerging technologies to provide access to nutrition therapies to treat related problems/diseases and evaluate intervention success.

2. Ultimate goal(s) of this Program

The ultimate goal of the proposed plan is to enhance coping skills of youth by developing decision-making, communication and refusal skills; to help youth resist risky behaviors and to have the ability to address relevant issues in their daily lives. This will include knowledge and awareness concerning career development/workforce preparedness, and development of job readiness skills of at-risk, limited-resources youth to obtain employment or pursue a career in a desirable workplace. This plan will also develop a healthy and well-nourished physically fitness population through the dissemination of new and innovative delivery methods, practices, and products that will result in increased public awareness of healthy lifestyle choices. The plan will increase the capacity of family to improve parenting practices that result in better family development and relationship outcomes; improve parent/caregivers practices to increase and provide high quality, accessible, and affordable childcare and improve financial management skills of targeted limited-resource residents to improve their financial stability.

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
2012	0.0	6.0	0.0	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2013	0.0	6.0	0.0	0.0
2014	0.0	6.0	0.0	0.0
2015	0.0	6.0	0.0	0.0
2016	0.0	6.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Area Extension educators will conduct educational sessions in local schools and communities using educational programs, events and activities to aid youth in resisting risky behaviors such as tobacco use, alcohol and drug abuse, becoming sexual active, STD's and high school dropouts and juvenile detention, etc . Extension educators, community volunteers, state specialists and other collaborators will plan and organize programs, summits and events that will provide additional educational information to youth. Career days/fairs will be conducted at local schools and communities. The development of skills of volunteer leaders to organize school and community based clubs. Youth and volunteer leaders will participate in the following activities and events: 4-H Project Achievement Day: 4-H State Club Congress; 4-H State Fair Exhibit/4-H Day at Fair; National 4-H Congress; leadership camp and career days/fairs. Additionally, educational programs, events and activities will be implemented to improve parenting practices to improve parent and child relationship. Also, information will be disseminated and programs conducted on child development for developing and enhancing after school programs child care and other learning environments of children. Educational workshops, tours and career days/fairs will be conducted at local schools and in communities on financial resource management. Another aspect of this planned program will focus on the implementation of educational programs, events and activities along with research to address the nutrition, health fitness wellness and obesity issues facing limited-resources families and youth in communities. Educational programs and workshops will be conducted to promote nutrition and other factors contributing to healthy lifestyles. Activities will be implemented that focused on behavior changes needed for proper weight management. Educational programs will be implemented focusing on recipe modification, portion control, food safety and calorie reduction. The educational program in this area of the planned program will provide participants adequate knowledge and information to make wise decisions concerning nutrition, health and their lifestyles to decrease weight gain and delay the onset of chronic diseases such as: heart disease, diabetes and hypertension.

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

Extension

Direct Methods	Indirect Methods

☑ Education Class	☑ Public Service Announcement
☑ Workshop	☑ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☑ TV Media Programs
☑ Demonstrations	☑ Web sites
☑ Other 1 (Regional Youth Summits)	☑ Other 1 (Fact Sheets)
☑ Other 2 ((Summer Camps) Mini Conference)	☑ Other 2 (Youth Newsletters)

3. Description of targeted audience

The target audiences are at-risk limited-resource youth age 5 to 19 and adult volunteers.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	500	800	3300	2000
2013	600	900	3700	2200
2014	700	1000	4000	2500
2015	750	1100	4200	2800
2016	850	1200	4400	3000

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	1	1
2013	0	1	1
2014	0	1	1
2015	0	1	1
2016	0	1	1

V(H). State Defined Outputs

1. Output Target

- Conduct educational programs, events and activities on risky behaviors affecting youth.

  2012:25 **2013:**30 **2014:**35 **2015:**40 **2016:**45

- Conduct career/workforce educational sessions in local schools and communities.

  2012:30 **2013:**35 **2014:**40 **2015:**45 **2016:**50

- Conduct leadership development educational programs, events and activities to provide opportunities at the county and regional levels.

  2012:14 **2013:**16 **2014:**18 **2015:**20 **2016:**22

- Involvement of minority youth in county, state, district and national 4-H leadership activities and events: Youth leadership Academy; 4-H: Achievement Day, State Club Congress, Mississippi State Fair, National 4-H Conference and National 4-H Congress.

  2012:40 **2013:**45 **2014:**50 **2015:**50 **2016:**55

- Conduct science, technology and environment programs events and activities to attract the interest of youth in educational fields.

  2012:10 **2013:**12 **2014:**14 **2015:**16 **2016:**16

- Conduct educational programs, events and activities on family financial resource management.

  2012:10 **2013:**12 **2014:**14 **2015:**16 **2016:**16

- Conduct educational programs, events and activities on effective parenting practices.

  2012:12 **2013:**14 **2014:**16 **2015:**18 **2016:**18

- Conduct research on nutrition, health, wellness, obesity and opportunities for physical fitness on youth and adult.

  2012:2 **2013:**2 **2014:**3 **2015:**3 **2016:**2

- Conduct nutrition and health and wellness workshops for limited-resource youth and adults.

  2012:5 **2013:**6 **2014:**8 **2015:**10 **2016:**10

- Disseminate information about nutrition, chronic diseases and weight management.

  2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**3

- Conduct educational programs, events and activities on nutrition, and physical fitness to improve health related diseases among limited-resource youth and adults.

  2012:15 **2013:**20 **2014:**22 **2015:**25 **2016:**25

- Conduct demonstrations and disseminate information related to physical fitness and weight management.

  2012:20 **2013:**25 **2014:**30 **2015:**35 **2016:**35

- Conduct educational programs, events and activities on food safety practices to preserve food quality and food sanitation.

  2012:8 **2013:**10 **2014:**12 **2015:**14 **2016:**14

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase the number of youth who resisted risky behavior that impacts their social and educational development.
2	Increase in number of minority youth competing in leadership competitions, youth events, activities and community projects
3	Increase in the number of trained volunteer leaders to organize and manage school and community youth clubs.
4	increase percentage of limited-resource participants to adopt parenting practices to improve parent/child relationships.
5	Increase percent of limited-resource families and youth to utilize their skills to analyze their financial well-being and make effective financial management decisions.
6	Increase percentage of limited-resource families and youth who utilize both healthy eating practices and physical fitness to manage obesity, weight and health related diseases.
7	Increase percentage of participants to utilize knowledge gained and made adjustments in their nutrition and lifestyle behaviors

Outcome # 1

1. Outcome Target

Increase the number of youth who resisted risky behavior that impacts their social and educational development.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:50 **2013:**60 **2014:**60 **2015:**60 **2016:**70

3. Associated Knowledge Area(s)

- ☐ 703 - Nutrition Education and Behavior
- ☐ 724 - Healthy Lifestyle
- ☐ 801 - Individual and Family Resource Management
- ☑ 802 - Human Development and Family Well-Being
- ☐ 806 - Youth Development

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 2

1. Outcome Target

Increase in number of minority youth competing in leadership competitions, youth events, activities and community projects

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:40 **2013:**45 **2014:**50 **2015:**50 **2016:**55

3. Associated Knowledge Area(s)

- ☐ 703 - Nutrition Education and Behavior
- ☐ 724 - Healthy Lifestyle
- ☐ 801 - Individual and Family Resource Management
- ☐ 802 - Human Development and Family Well-Being

☑ 806 - Youth Development

4. Associated Institute Type(s)

☑ 1890 Extension
☐ 1890 Research

Outcome # 3

1. Outcome Target

Increase in the number of trained volunteer leaders to organize and manage school and community youth clubs.

2. Outcome Type :

○ Change in Knowledge Outcome Measure
◉ Change in Action Outcome Measure
○ Change in Condition Outcome Measure

2012:25 **2013:**30 **2014:**35 **2015:**40 **2016:**45

3. Associated Knowledge Area(s)

☐ 703 - Nutrition Education and Behavior
☐ 724 - Healthy Lifestyle
☐ 801 - Individual and Family Resource Management
☐ 802 - Human Development and Family Well-Being
☑ 806 - Youth Development

4. Associated Institute Type(s)

☑ 1890 Extension
☐ 1890 Research

Outcome # 4

1. Outcome Target

increase percentage of limited-resource participants to adopt parenting practices to improve parent/child relationships.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:19 **2013:**21 **2014:**25 **2015:**35 **2016:**40

3. Associated Knowledge Area(s)

- ☐ 703 - Nutrition Education and Behavior
- ☐ 724 - Healthy Lifestyle
- ☐ 801 - Individual and Family Resource Management
- ☑ 802 - Human Development and Family Well-Being
- ☐ 806 - Youth Development

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☐ 1890 Research

Outcome # 5

1. Outcome Target

Increase percent of limited-resource families and youth to utilize their skills to analyze their financial well-being and make effective financial management decisions.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:16 **2013:**18 **2014:**20 **2015:**25 **2016:**25

3. Associated Knowledge Area(s)

- ☐ 703 - Nutrition Education and Behavior
- ☐ 724 - Healthy Lifestyle
- ☐ 801 - Individual and Family Resource Management
- ☑ 802 - Human Development and Family Well-Being
- ☐ 806 - Youth Development

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 6

1. Outcome Target

Increase percentage of limited-resource families and youth who utilize both healthy eating practices and physical fitness to manage obesity, weight and health related diseases.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:30 **2013:**35 **2014:**40 **2015:**45 **2016:**50

3. Associated Knowledge Area(s)

- ☐ 703 - Nutrition Education and Behavior
- ☑ 724 - Healthy Lifestyle
- ☐ 801 - Individual and Family Resource Management
- ☐ 802 - Human Development and Family Well-Being
- ☐ 806 - Youth Development

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 7

1. Outcome Target

Increase percentage of participants to utilize knowledge gained and made adjustments in their nutrition and lifestyle behaviors

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:20 **2013:**22 **2014:**25 **2015:**25 **2016:**28

3. Associated Knowledge Area(s)

- ☑ 703 - Nutrition Education and Behavior
- ☐ 724 - Healthy Lifestyle
- ☐ 801 - Individual and Family Resource Management
- ☐ 802 - Human Development and Family Well-Being
- ☐ 806 - Youth Development

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.)
- ☑ Other (Relocation of youth)

Description

External factors that may affect the outcome of these programs are the shift or change in staffing patterns and resources available to conduct the various educational session activities and events. Natural disasters such as: hurricanes, tornados and floods that cause families to relocate and cause economic distress. Youth and families participating in the program can leave programs because of relocation of the family (youth leaving the school district, parent relocating because of employment). Parents or guardians not giving youth permission to participate in the program (lack of parental consent). Policy changes in local and state public and private schools counties and the availability of transportation for participants could affect program implementation.

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

1. Evaluation Studies Planned

- ☐ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☐ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

The evaluation plan for the programs will be evaluated before and after the program using appropriate evaluation instruments and tools for the educational curriculum, events and activities as it relate to the Youth, Family, Nutrition, Health, Wellness and Obesity planned program.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

- ☑ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☐ Tests
- ☐ Journals
- ☐ Other

Description

Data will be gathered from participants of the programs before and after using pre post tests, observation, and portfolio reviews. Probability sampling will be used because it is the preferred process for youth program evaluations. The programs will have a targeted population and utilized indicators related to the program objectives and evaluation assessment conducted for programs..

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Climate Change

2. Brief summary about Planned Program

The demand for food, fiber, land and water increases as the population increases creating challenges for farmers and producers. More intensive and effective conservation strategies will be needed to ensure that we fulfill these increasing demands while sustaining our resources and maintaining the integrity of our environment and the ecosystems. In addition to these challenges, climate change will intensify the obstacles for conservation and production. The planned program will focus on determining the best management practice(s) (BMPs) and best available technology(ies) (BATs) of crop production (using horticulture or alternative crops) to improve their economic values while minimizing adverse impact to the environment in Mississippi. In the effort to identify the agronomic requirements for high-income generating crop cultivars, different treatments and methods will be utilized, including: different cropping systems (rotation or multi cropping); fertilizer treatments; irrigation sources and application methods; staking and pruning techniques as well as other management practices affecting the plant density. Excess nutrient will be observed through plant nutrient uptake and fate and transport of leachates in the soil subsurface. Studies in these areas will advance the understanding of **Soil, Plant, Water, Nutrient Relationships.**

Simultaneously, the study of irrigation methods and applications that can be impacted by climate change will also address **Conservation and Efficient Use of Water** and its impact to **Watershed Protection and Management**. The cost and benefit of combinations of treatments and technologies will be assessed to identify which management practice is the most cost effective method that will also protect the environment, addressing **Economics of Agriculture and Farm Management.** Concurrent research will be conducted to evaluate the integration of production practices in an efficient and effective manner using application of remote sensing and/or geographic information systems, or other technologies to help better understand ways of **Pollution Prevention and Mitigation.** The results of these studies will be disseminated to communities so that they have accessibility to information, a better understanding of available technologies and adopt best management practice(s) that will support and maximize their production while protecting the environment. At the same time, agriculture productivity is highly sensitive to climate factors such as temperature and rainfall that can cause drought, severe storms, and floods. Changes in climate may impact soil moisture and the quantity and quality of water supply that creates obstacles for crop production. Factors that affect climate change include changes in land use such as conversion of forest land into commercial or residential may alter the hydrologic cycle; thus, impacting the quality and quantity of water resources and the quality of soil. The changes in water and nutrient availability will be a limiting factor that may offset any potential beneficial yield.

3. Program existence :

- ◯ New (One year or less)
- ◉ Intermediate (One to five years)
- ◯ Mature (More than five years)

4. Program duration :

- ◯ Short-Term(One year or less)
- ◯ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ◯ No

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

- ◯ Yes
- ◉ No

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		40%		40%
104	Protect Soil from Harmful Effects of Natural Elements		10%		10%
111	Conservation and Efficient Use of Water		10%		10%
112	Watershed Protection and Management		10%		10%
132	Weather and Climate		10%		10%
133	Pollution Prevention and Mitigation		10%		20%
601	Economics of Agricultural Production and Farm Management		10%		0%
	Total		100%		100%

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

1. Situation and priorities

Mississippi's soil, water resources, mild climate, and long growing season present growers with favorable conditions to produce high priority agronomic crops such as cotton, soybean, corn and rice. However, the production of some of these conventional crops has exceeded demand; thus, suppressing prices below the level of profitability. In addition, the numbers of farmers/producers are generally decreasing due to the lack of interest in production that stems from their inability to make more profit and, also, due to the "traditional" labor intensiveness of agriculture production. The lack of interest in agriculture is, also, due to the lack of education in the field of agriculture at the school systems, which has changed

dramatically in the past two decades. Furthermore, new technologies, mechanization, increased chemical use, specialization and government policies that favored massive production complicates the conditions more. These situations lead to the declining numbers of family or small farmers and farm family income; increasing cost of production; decreasing employment opportunities in the field of agriculture while increasing urban population. Thus, causes the disintegration of economic and social conditions in the rural communities. This problem has become an issue because most farmers who benefit from agricultural research at Alcorn State University are small and limited-resource farmers and producers. They are lacking in information and seeking assistance on current management practices and available technologies to maximize their efforts in improving crop production potential and profitability. On the other hand, farmers in Mississippi are reluctant to participate in government assistance programs which require implementation of conservation programs. Their beliefs in traditional agricultural practices and their limitations about environmental issues will make it difficult promote environmental protection strategies and change their way to a more sustainable and environmental friendly practices. Warmer temperatures may be beneficial to some crops in some regions. However, high temperatures may eventually reduce yields of desirable crops while encouraging weed and pest proliferation. Understanding the potential impacts of climate change and its sequential impact to agricultural activities, production, and the economy is much needed in this changing environment. Scientists at Alcorn State University will evaluate agricultural management practices to improve crop management and production under different climate variability such as water temperature and water input. Alcorn's scientists and supporting staff have been conducting field studies and communicating with local farmers to identify alternative crops with high-income potential that can improve the income of small scale farmers in Mississippi. With fruit and vegetable crop production as well as organic farming favored by many farmers, further investigations related to its soil water and nutrient management will be conducted.

Using alternative crops and environmentally friendly production practices will enhance productivity without polluting the environment (Igbokwe et al., 1996; Igbokwe and Hollins, 2000; Panicker et al., 2004). Changes in climate may impact soil moisture and the quantity and quality of water supply that creates obstacles for crop production. Factors that affect climate change include changes in land use such as conversion of forest land into commercial or residential. Forested lands are an important natural resource in Mississippi covering about 18.5 million acres. Forest industry contributes about $1.25 billion to the economics of Mississippians through jobs, forest products, livestock forage, area wildlife habitats, scenic areas, conditions for medicinal plants, and recreational experiences. Alterations in forest areas may alter the hydrologic cycle; thus, impacting the quality and quantity of water resources and the quality of soil. The changes in water and nutrient availability will be a limiting factor that may offset any potential beneficial yield. Therefore, practices to improve management are needed to maintain and sustain the current forested lands for present and future generations.

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

This program assumes that: (1) by using farmers' fields as field laboratory will provide them with opportunities to be involved in series of workshops, seminars and conferences; (2) farmers will have a hands-on experience that will give a better understanding and confident to adopt and implement new

practices; (3) farmers/producers believe that it is not economically feasible to minimize adverse environmental impact when considering maximum profitability of crop production; (4) it will be difficult to promote environmental protection strategies to farmers/producers due to their limited knowledge about environmental concerns; (5) it will difficult to change the behavior of farmers/producers due to their beliefs in traditional agricultural practices; and (6) by using a holistic approach, farmers will be motivated to adopt a better and cost-effective production practices.

2. Ultimate goal(s) of this Program

To enhance the income potential of the Mississippi limited-resource farmers by increasing alternative crops yields through sustainable production practices and protect the 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
2012	0.0	2.5	0.0	4.0
2013	0.0	2.5	0.0	4.0
2014	0.0	3.0	0.0	4.0
2015	0.0	3.0	0.0	4.0
2016	0.0	3.0	0.0	4.0

V(F). Planned Program (Activity)

1. Activity for the Program

Improved cultural practices, such as crop rotation, conservation tillage, mulching, multiple-cropping, nutrient management and other factors of optimal production will be identified and recommended as best management practice(s). Insects, mites and other arthropods affecting plants pests of the crop plants will be controlled with appropriate pesticides. Major principles of integrated pest management system will be demonstrated and made available to farmers. The need to use the identified pest resistant cultivars will be emphasized. Weeds affecting crop lands will be controlled with appropriate herbicides, mulching with organic and/or synthetic materials, cover cropping, and solarization, among other measures that will be found suitable through research at Alcorn State University. Research guides will be established to identify techniques needed to supply limited-resource farmers with alternatives that will provide additional income from their property. Studies will be used to identify the best management practices (BMPs) in combination with best available technologies (BATs) that will increase crop production and maximize profitability. Concurrent research will also be used to evaluate the costs and benefits associated with each BMPs and BATs. Research findings will be shared with stakeholders via newsletters, information sheets, research reports, and flyers. Educational materials will be disseminated through workshops and demonstrations.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☑ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☑ TV Media Programs
☑ Demonstrations	☑ Web sites
☐ Other 1	☑ Other 1 (Fact Sheets)
☐ Other 2	☑ Other 2 (Reports)

3. Description of targeted audience

Small and limited-resource farmers.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	300	600	50	200
2013	300	700	50	250
2014	300	800	50	300
2015	300	900	50	350
2016	325	1000	75	400

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	2	0	2
2013	3	0	3

Year	Research Target	Extension Target	Total
2014	3	0	3
2015	3	0	3
2016	3	0	0

V(H). State Defined Outputs

1. Output Target

- Number of papers and publications developed by research.

  2012:4 **2013:**3 **2014:**4 **2015:**3 **2016:**0

- Conduct educational seminars for limited-resource farm families and youths in communities on soil, plant, water, and nutrient relationships.

  2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Conduct educational training on sustainable crop production practices to limited-resources farm families.

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**0

- Develop educational fact sheets on sustainable crop production practices.

  2012:4 **2013:**4 **2014:**5 **2015:**5 **2016:**0

- Number of research projects.

  2012:4 **2013:**4 **2014:**0 **2015:**0 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase Cost Benefit Analysis evaluations associated with each Best Management Practices (BMPs) and Best Available Technologies (BATs).
2	Improve educational materials to address BMPs and BATs.
3	Increase number of workshops and seminars related to sustainable agriculture production.
4	Increase number of farmer/producers to adopt and implement sustainable agriculture production.

Outcome # 1

1. Outcome Target

Increase Cost Benefit Analysis evaluations associated with each Best Management Practices (BMPs) and Best Available Technologies (BATs).

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:2 **2013:**2 **2014:**2 **2015:**0 **2016:**0

3. Associated Knowledge Area(s)

- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 104 - Protect Soil from Harmful Effects of Natural Elements
- ☐ 111 - Conservation and Efficient Use of Water
- ☐ 112 - Watershed Protection and Management
- ☐ 132 - Weather and Climate
- ☐ 133 - Pollution Prevention and Mitigation
- ☑ 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 2

1. Outcome Target

Improve educational materials to address BMPs and BATs.

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ○ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:3 **2013:**3 **2014:**3 **2015:**0 **2016:**0

3. Associated Knowledge Area(s)

- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 104 - Protect Soil from Harmful Effects of Natural Elements

- ☑ 111 - Conservation and Efficient Use of Water
- ☑ 112 - Watershed Protection and Management
- ☐ 132 - Weather and Climate
- ☑ 133 - Pollution Prevention and Mitigation
- ☐ 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 3

1. Outcome Target

Increase number of workshops and seminars related to sustainable agriculture production.

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ◯ Change in Action Outcome Measure
- ◯ Change in Condition Outcome Measure

2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**3

3. Associated Knowledge Area(s)

- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 104 - Protect Soil from Harmful Effects of Natural Elements
- ☑ 111 - Conservation and Efficient Use of Water
- ☑ 112 - Watershed Protection and Management
- ☐ 132 - Weather and Climate
- ☑ 133 - Pollution Prevention and Mitigation
- ☑ 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 4

1. Outcome Target

Increase number of farmer/producers to adopt and implement sustainable agriculture production.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:0 **2013:**0 **2014:**3 **2015:**3 **2016:**3

3. Associated Knowledge Area(s)

- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☐ 104 - Protect Soil from Harmful Effects of Natural Elements
- ☑ 111 - Conservation and Efficient Use of Water
- ☑ 112 - Watershed Protection and Management
- ☐ 132 - Weather and Climate
- ☑ 133 - Pollution Prevention and Mitigation
- ☑ 601 - Economics of Agricultural Production and Farm Management

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.)
- ☐ Other

Description

Agriculture production is very sensitive and susceptible to extreme weather conditions, change in governmental policies and regulations, competitive land uses and shifting development patterns, evolving consumer demands, and global influenced markets. An external factor such as weather extremes can delay planting of crops, or significantly affect the quality and quantity of crop production during growing season; thus, affecting profitability.

Municipal and commercial zoning such as competitive land uses, shifting development patterns

and global markets influence will have an effect that decreases favorable land for agricultural purposes. Re-zoning can, also, happen due to changes in a rural population from immigration or relocation and new cultural grouping. Population changes in farming communities can lead to producer/neighbor issues that influence choice of agriculture production practices.

The fluctuation in the agricultural and global economy will also determine profitability verses prices of commodities, supplies, and other needed resources. Supply and demand will facilitate changes that occur in the state and regional economies within the sector of agriculture enterprises. Public policy that governs comparative prices and competing public priorities of harvested crops will also be a factor that needs to be considered.

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

1. Evaluation Studies Planned

- ☐ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☐ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Comparisons between communities where program operates and communities without program intervention.

Evaluation studies will be measured according to the number of farmers/producers who participates in adopting and implementing new strategies in crop production which includes implementing BMPs and BATs that maximizes their productivity while minimizing adverse impact to the environment. The number of participants will be compared to communities where the farmers/producers are lacking in information (or without program intervention) and therefore do not adopt or implement new production strategies.

2. Data Collection Methods

- ☑ Sampling
- ☑ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☐ Unstructured

☑ Case Study
☑ Observation
☐ Portfolio Reviews
☑ Tests
☑ Journals
☐ Other

Description

Sampling will be done collect data of communities in which extension agents conduct seminars and workshops to share and disseminate information to farmers/producers. Collection of data can be done using whole population or statistical data and the use of geographic information systems to determine land-use areas for agricultural practices. Mail and telephone are another method to obtain information to determine the number of participants. Historical data from journals will be used to conduct observations and case studies. Overall, the impact of the planned program will be determine according to the number of participants that adopts and implement new management to achieve sustainable agriculture.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety

2. Brief summary about Planned Program

This planned program will target research on various scientific disciplines to ensure food safety. The program will encourage judicious use of chemicals on agricultural crops by measuring toxic residues. Analytical detection methods including sensors will be developed to detect and quantify pathogens and chemical residues in food. Improved methods for produce handling, processing activities and storage will be developed. New biopesticides will be discovered to ensure food crops free of toxic chemicals. Educational sessions will be conducted in food safety, good agricultural practices, good handling practices, quality control, hazard analysis and critical control points, fresh produce packaging and value-added production. New attractants and repellents will be tested against insects affecting food crops. Biology and distribution of such insect pests will be investigated and sampling protocols will be developed by using remote sensing and other automated sampling methodologies. Predictive models for natural enemies of insect pests and improved methods of control will be developed. Integrated pest management techniques will be applied in organic production system to minimize the dependency on synthetic chemical pesticides and to ensure production of farm products free of toxic chemical residue. Research will be conducted in collaboration with the U.S. Army to convert animal waste into a slow-release and environmentally-friendly manure.

3. Program existence :

- (●) New (One year or less)
- ( ) Intermediate (One to five years)
- ( ) Mature (More than five years)

4. Program duration :

- ( ) Short-Term(One year or less)
- ( ) Medium-Term (One to five years)
- ( ) Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- (●) Yes
- ( ) No

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

- ( ) Yes
- (●) No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources		60%		60%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins		40%		40%
	Total		100%		100%

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

1. Situation and priorities

Microbiological contamination and chemical residue on farm products have significant concern for the consumer. Groundwater pollution from animal waste is also a health concern for both humans and animals. Public health is of primary importance during cultivation, processing and storage of food products. Priority areas include: 1) discover new effective biopesticides in order to reduce dependence on synthetic chemicals for managing insect pests of food crops; 2) investigate biology, distribution and sampling protocols for insect pests of food crops to aid in successful management by non-chemical methods; thus, minimizing toxic chemical residues on food products; 3) Waste treatment to prevent animal waste from carrying pathogens to the fruits and vegetables; 3) educate and provide technical assistance to prepare small farmers and limited-resource cooperatives for entrance into commercial markets with safe local produce; 4) administer training in food safety, good agricultural and food handling practices, quality control in fresh produce packaging and storage by utilizing the Alcorn State University Vegetable Facility, "USDA-good handling practices certified" for produce packaging and processing activities.

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

Organic production of food crops free of toxic chemical residues largely depends upon the discovery of new effective bio-pesticides and application of integrated pest management tactics. Successful population monitoring programs of insect pests are essential to minimize and in some cases to eliminate the use of synthetic chemicals on food crops. Use of bio-pesticides is expected to minimize dependency on toxic chemicals; thus, ensuring food safety for the consumers.

Detection of new pathogens on food products requires continuous research to restore consumer confidence in the food supply. Factors, such as demand for ready-to-eat and minimally processed foods contribute to increased exposures to food-borne diseases. Application of fresh animal waste and its unscientific composting help zoonotic enteric pathogens to get onto fruits and vegetables in sufficient numbers to result in human illness. Mishandling of food during harvesting, processing and storage may enhance hazard of food-borne illnesses. Improved education on the safe production and handling of produce crops sold fresh would help decrease the risk of contamination and prevent food related illnesses. Detection of food-borne pathogens and chemical residues is essential to ensure that foods are safe for human consumption. Portable sensors and detectors would enable consumers to test the safety of foods prior to consumption.

2. Ultimate goal(s) of this Program

Deploying non-chemical methods of control and preserving natural enemies of the insect pests will encourage the utilization of non-chemical management tactics. The use of less expensive integrated pest management techniques will encourage organic production of farm products; thus, ensuring food safety. Improved methods of sampling and control of insect pests of food crops will provide safe and economical ways of management. Scientific composting of animal waste will permit sustainable farming and reduce the bacterial hazard associated with handling fresh animal waste. The program will support local agriculture and provide educational and technical assistance to farmers to enter into commercial markets with safe local produce. It would contribute to the increased utilization of produce marketed directly to the public and address food safety issues.

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
2012	0.0	2.0	0.0	2.0
2013	0.0	2.0	0.0	2.0
2014	0.0	2.0	0.0	2.0
2015	0.0	2.0	0.0	2.0
2016	0.0	2.0	0.0	2.0

V(F). Planned Program (Activity)

1. Activity for the Program

Improved methods for produce handling, processing and storage will be developed. New bio-pesticides will be discovered and tested. Judicious use of chemicals on agricultural crops will be encouraged. Toxic residues will be compared. Animal waste will be converted into a slow-release and environmentally-friendly manure. Educational sessions will be conducted in food safety, good agricultural practices, good handling practices, quality control, hazard analysis and critical control points, fresh produce packaging and value-added production. The processing plant will serve as a training laboratory where limited-resource farmers will receive hands-on experience on the activities associated with value-added processing and packaging of foods. Research outcomes and recommendations will be disseminated in educational workshops, field demonstrations, printed educational materials including on-

line ASU Extension publications, field days, professional journals, and on the computer network. Research results will be presented at annual meetings of professional societies.

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

Extension

Direct Methods	Indirect Methods
☐ Education Class	☑ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☑ TV Media Programs
☑ Demonstrations	☑ Web sites
☐ Other 1	☑ Other 1 (Reports)
☐ Other 2	☐ Other 2

3. Description of targeted audience

The target audience will consist of Area Extension educators, small limited-resource farmers, and the scientific community.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	200	500	100	200
2013	200	500	100	200
2014	200	500	100	200
2015	200	500	100	200
2016	250	600	150	300

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total

Year	Research Target	Extension Target	Total
2012	1	0	1
2013	1	1	2
2014	2	1	3
2015	2	1	3
2016	2	1	0

V(H). State Defined Outputs

1. Output Target

- Workshops will be conducted to educate farmers on the importance of producing safe food through the use of IPM.

  2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**4

- Workshops will be conducted to educate farmers on the importance of producing safe food through the use of Good Agriculltural Practices (GAP).

  2012:2 **2013:**4 **2014:**4 **2015:**4 **2016:**4

- Field days will be conducted to demonstrate the use of Integrated Pest Management (IPM).

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**4

- Field days will be conducted to demonstrate the use of Good Agriculltural Practices (GAP).

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

V(I). State Defined Outcome

O. No	Outcome Name
1	The intended target audience will gain knowledge and awareness in growing farm products with free or acceptable levels of chemical residue, and safe processing and storage of food products.

Outcome # 1

1. Outcome Target

The intended target audience will gain knowledge and awareness in growing farm products with free or acceptable levels of chemical residue, and safe processing and storage of food products.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:75	**2013:**100	**2014:**200	**2015:**300	**2016:**300

3. Associated Knowledge Area(s)

- ☑ 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and
- ☑ 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally

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.)
- ☐ Other

Description

Research activities are susceptible to weather which prevents or delays field test activities. Fundamental change occurring in the state and regional economies within which, agricultural and horticultural enterprises operate. Public policy relating to comparative prices of inputs, harvested crops, and changes in government regulations such as competitive land uses, shifting development patterns and global market influence. Population changes in farming communities can lead to producer/neighbor issues that influence choice of production practices.

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

1. Evaluation Studies Planned

- ☐ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☑ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☑ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☑ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☑ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

Pre-program and post-program surveys will be compared. Certification exams will be given following technical training sessions. Questionnaires with returned mailing envelopes will be mailed to the farmers, specialists and other interested individuals and feedback will be recorded. Post training interviews will be conducted to determine the level of understanding and interest.

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☑ Mail
- ☑ Telephone
- ☑ On-Site

Interview

- ☐ Structured
- ☑ Unstructured

- ☐ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☐ Tests
- ☑ Journals
- ☐ Other

Description

Pre-program and post-program surveys will be compared. Certification exams will be given following technical training sessions. Questionnaires with returned mailing envelopes will be mailed to the farmers, specialists and other interested individuals and feedback will be recorded. Post training interviews will be conducted to determine the level of understanding and interest.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Sustainable Energy

2. Brief summary about Planned Program

The increased demand for energy, due to population increase, has stimulated the world community to look for alternative resources to develop renewable energy from various sources to meet the demands of the swiftly growing population. One of the major natural resources that can be effectively exploited for energy production is the bio-mass from plants and animals. The economic benefits associated with energy production from bio-mass are extremely important to the rural population and farming communities.

The planned program will focus on applying an advanced composting technology to precipitate struvite, a value-added bio-based industrial product from animal waste, for sustainable crop production. The new technology uses cultured bacteria and a soluble magnesium source added to the animal waste to convert the organic nitrogen and phosphorus into an inorganic compound (ammonium magnesium phosphate hydrate). This addition of cultured bacteria scientifically reduces the bacterial hazard associated with handling fresh animal waste. The final industrial product will be a struvite enriched, slow-release, and environmentally-friendly manure.

Sweet sorghums are characterized by their wider adaptability, rapid growth and sugar accumulation associated with high biomass. The sugar presented in the stalk juice of sweet sorghum can be fermented and converted to ethanol using relatively simple techniques. Sweet sorghum stalks are ideal for ethanol production as the ethanol is significantly cleaner (low sulfur), and potable alcohol produced from sorghum grains has superior quality.

Genetically engineered Saccharomyces cerevisiae (yeast) will produce and secrete enzymes that will break cellulosic matter to glucose. Glucose then will be consumed by the same yeast to produce ethanol. Genetic modifications will make the yeast more tolerant to ethanol.

Another major source of alternate energy is solar energy. Electricity from photovoltaic (solar) cells can provide farmers in rural and remote locations with alternate and renewable energy, whose cost will be independent of world oil prices and politics. A dual photovoltaic/fuel cell will be used in the program to generate electric power for farming communities.

3. Program existence :

- (●) New (One year or less)
- ( ) Intermediate (One to five years)
- ( ) Mature (More than five years)

4. Program duration :

- ( ) Short-Term(One year or less)
- ( ) Medium-Term (One to five years)
- (●) Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- (●) Yes
- ( ) No

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

- ( ) Yes
- (●) No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships		20%		20%
201	Plant Genome, Genetics, and Genetic Mechanisms		20%		20%
204	Plant Product Quality and Utility (Preharvest)		15%		15%
205	Plant Management Systems		20%		20%
403	Waste Disposal, Recycling, and Reuse		20%		20%
511	New and Improved Non-Food Products and Processes		5%		5%
	Total		100%		100%

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

1. Situation and priorities

Ground water and surface water supplies are threatened with contamination from numerous sources. One of the most serious sources of non-point pollution is animal manure. Nitrogen and phosphorus contamination of surface and ground water is a health concern for both humans and animals. Since the absorption and requirement of nutrients needed varies from species to species, this compost will be tried on different species of horticultural and agronomic crops raised on major soil series in Mississippi. An inexpensive and small-scale compost production unit will be established on the campus for processing various animal wastes and training farmers.

The feasibility of converting stalk sugars to ethanol and the adaptability of sweet Sorghum to a wide range of environments prompted researchers to evaluate the potential of this crop as an alternative crop for ethanol production. In a sharp contrast to corn and potato, sweet potatoes are not even used for industrial applications in the U. S. It is thus critical to explore ways to increase its food and industrial utilization for a much better economic return to growers, particularly to limited-resource farmers in southeastern states where it is mostly grown. Sweet potato storage roots having a high content of starch /dry matter and a high level of the post-harvest thermostable &beta-amylase activity can be of much higher economic value as a better alternative feedstock for ethanol production.

The state of Mississippi easily produces huge amounts of cellulose-containing matter like switchgrass, timber, and waste from different processed agricultural products. On the other hand, the demand for alternative sources of energy (biofuels) has dramatically increased. Therefore, any source of cellulose will have an additional value due. Farmers will be the main beneficiaries because they will produce a crop of crucial industrial importance that will generate extra revenue.

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

Composting animal waste to form an environmentally-friendly manure will permit the more rapid expansion of sustainable agriculture and can potentially reduce the bacterial hazard associated with handling fresh animal wastes. Based on the low cost of the starting materials, the lower capital investment, the potential value of the compost and the scalability of the process, processing manure to environmentally compost should be the preferred option for recycling wastes from livestock farming. A recently set up pilot ethanol distillery in (India) produced 40,000 liters of ethanol daily from the extraction of 800 tons of sweet sorghum stems. The sweet potatoes can become an alternative feedstock for production of bio-fuel, i.e. ethanol, particularly if the content of starch/dry matter in storage roots can be elevated through biotechnology, and conventional breeding. The sweet potato can grow very well on marginal land, and produces more bio-mass per hectare than any other crop (Woolfe, 1993; Prakash, 2004). The dry matter content of sweet potato storage roots, in which starch is the major component, can reach as high as 44% (Tian et al., 1991; Brabet, 1998). Secondly, the 'self-degradation' of starch in storage roots by a thermostable b-amylase activated during curing can be taken advantage of for a simplified and more economical starch hydrolysis in an ethanol fermentation process. The new yeast strain will be able to produce high amount of enzymes that break the cellulose to glucose making it available to the yeast for fermentation. It also, will be able to accumulate more ethanol (due to a better ethanol tolerance) so the yield will be increased.

The new yeast strains would be able to produce high amount of enzymes that break cellulose to glucose making available for yeast for fermentation. Other genetic modifications to improve the ethanol tolerance also will allow the yeast to accumulate higher amounts of ethanol increasing the yield.

The planned program will demonstrate the feasibility and benefits of using a dual photovoltaic/fuel cell power system as a primary power source for domestic, commercial, and remote facilities. A building will be selected on the Alcorn State University campus to serve as a model for the demonstration. The dual

photovoltaic/fuel cell power system will be connected such that the photovoltaic system will provide electric power during sunny days while the fuel cell system will provide electric power during the night and cloudy days. Part of power developed by the solar panels will be used to power electrolyzers that will produce hydrogen and oxygen from water. The hydrogen and oxygen will be stored in tanks, with the hydrogen being used to fuel the fuel cell and the oxygen serving as the oxidant. Oxygen from the air is usually used as oxidant in fuel cells and will be used in this project to supplement the oxygen produced by the electrolyzers. The only by-products of the system will be water and heat from the fuel cell. The heat can be used for space heating. Since the system does not involve combustion it demonstrates the use of carbon-neutral, emission-free energy system, which is environmentally friendly and will help mitigate the harmful effects of greenhouse gases and curtail global warming. Once much experience has been gained from operating the dual power system and all reliability issues have been resolved, the system can also be replicated in the local farming and non-farming communities, with the hope of helping to mitigate the adverse environmental impact of current coal-fired and other fossil fuel based electric power systems.

For limited-resource farmers, rural, and remote communities, the system can be scaled for the just photovoltaic (solar cells) system with the fuel cell component being omitted. Commercial farmers can, however, adopt the dual photovoltaic/fuel cell system if necessary.

2. Ultimate goal(s) of this Program

The ultimate goals of this planned program area are : 1. Apply an advanced composting technology to precipitate struvite from animal waste for sustainable crop production, 2. Study the leaching characteristics of the struvite under greenhouse and field conditions, 3. To develop specialty sweetpotato cultivars that accumulate a high content of starch and dry matter, and have a high level of the post-harvest amylase activity in storage roots better suited for ethanol fermentation, 4. Create a new yeast strain that can utilize switchgrass (or other sources) as the main source of glucose, 5. Produce ethanol from sweet sorghum, and 6. To develop a dual photovoltaic/fuel cell power electric power system to generate sustainable electric power for rural/non-rural and remote/non-remote farming communities.

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
2012	0.0	2.0	0.0	2.0
2013	0.0	2.0	0.0	2.0
2014	0.0	2.0	0.0	2.0
2015	0.0	2.0	0.0	2.0
2016	0.0	2.0	0.0	2.0

V(F). Planned Program (Activity)

1. Activity for the Program

Conduct research experiments on sustainable energy from biomass.
Construct research facilities for processing biomass to generate energy.

Conduct workshops, meetings for stakeholders.
Provide training at demonstration centers across the state.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☐ Public Service Announcement
☑ Workshop	☐ Billboards
☐ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☑ TV Media Programs
☑ Demonstrations	☑ Web sites
☐ Other 1	☐ Other 1
☐ Other 2	☐ Other 2

3. Description of targeted audience

Livestock and crop farmers, area extension educators, and scientific and business community.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	30	120	0	0
2013	30	150	0	0
2014	30	150	0	0
2015	30	150	0	0
2016	40	175	0	0

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

2012:1 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	0	1

Year	Research Target	Extension Target	Total
2013	1	0	1
2014	1	0	1
2015	1	0	1
2016	1	0	0

V(H). State Defined Outputs

1. Output Target

- Method and result demonstration will be conducted at Alcorn State University and clientele sites.

2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**5

- Conduct bio-fuel production training workshops for the business community.

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase number of farmers to adopt energy technology on their farm lands.
2	Increase number of business owners to adopt energy technology for commercial production.

Outcome # 1

1. Outcome Target

Increase number of farmers to adopt energy technology on their farm lands.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**5

3. Associated Knowledge Area(s)

- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☑ 201 - Plant Genome, Genetics, and Genetic Mechanisms
- ☑ 204 - Plant Product Quality and Utility (Preharvest)
- ☑ 205 - Plant Management Systems
- ☑ 403 - Waste Disposal, Recycling, and Reuse
- ☑ 511 - New and Improved Non-Food Products and Processes

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 2

1. Outcome Target

Increase number of business owners to adopt energy technology for commercial production.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:0 **2013:**2 **2014:**2 **2015:**2 **2016:**2

3. Associated Knowledge Area(s)

- ☑ 102 - Soil, Plant, Water, Nutrient Relationships
- ☑ 201 - Plant Genome, Genetics, and Genetic Mechanisms
- ☑ 204 - Plant Product Quality and Utility (Preharvest)

- ☑ 205 - Plant Management Systems
- ☑ 403 - Waste Disposal, Recycling, and Reuse
- ☑ 511 - New and Improved Non-Food Products and Processes

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.)
- ☐ Other

Description

Research activities are susceptible to weather which prevents or delays field test activities. Fundamental change occurring in the state and regional economies within which, agricultural and horticultural enterprises operate. Public policy relating to comparative prices of inputs and harvested crops. Change in government regulations such as competitive land uses, shifting development patterns and global market influence. Population changes in farming communities can lead to producer/neighbor issues that influence choice of production practices.

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

1. Evaluation Studies Planned

- ☐ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☑ During (during program)
- ☐ Time series (multiple points before and after program)
- ☑ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants

- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

1. Economic production of struvite enriched compost and its feasibility on livestock farms
2. Quality of the processed animal waste as a slow-release and environmentally compost
3. Quality and quantity of ethanol produced from sweet sorghum, sweetpotato, and switch grass
4. Production cost of struvite and ethanol

2. Data Collection Methods

- ☐ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☐ Mail
- ☐ Telephone
- ☐ On-Site

Interview

- ☐ Structured
- ☐ Unstructured

- ☐ Case Study
- ☐ Observation
- ☐ Portfolio Reviews
- ☑ Tests
- ☐ Journals
- ☐ Other

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Childhood Obesity

2. Brief summary about Planned Program

Decreasing the prevalence of obesity among adolescent and young children in Mississippi requires focusing on key issues that address increasing physical activity, nutrition education programs, and risk factors associated with childhood obesity. There is a strong need for more prevention at a very young age, since an obese child will probably become an obese adolescent, and ultimately, an obese adult. However, if overweight/obesity risk factors are already present, then appropriate interventions should be readily available to prevent further weight gain as well as weight-related co-morbidity.

3. Program existence :

- (●) New (One year or less)
- ( ) Intermediate (One to five years)
- ( ) Mature (More than five years)

4. Program duration :

- ( ) Short-Term(One year or less)
- ( ) Medium-Term (One to five years)
- (●) Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- (●) Yes
- ( ) No

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

- ( ) Yes
- (●) No

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		5%		5%
702	Requirements and Function of Nutrients and Other Food Components		5%		5%
703	Nutrition Education and Behavior		80%		80%
724	Healthy Lifestyle		10%		10%
	Total		100%		100%

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

1. Situation and priorities

There are several risk factors associated with childhood obesity in southwest Mississippi but the most noted risk factors include food insecurity, poor diets and eating habits, and lack of parental knowledge and understanding of their significant role in childhood obesity. Mississippi ranks 18 nationally in the rate of childhood food insecurity. Almost one-third of America's children aged 4 to 19 will eat in a fast food restaurant which causes young children on an average to eat 187 more calories per day. Often obese parents raise obese kids so it is important to recognize the crucial roles parents play. Also, most families do not eat together as they use to and fewer families prepare meals at home.

Recreational and physical fitness outlets are few and limited in rural and southwest Mississippi resulting in less than 40 percent of its residents engaged in 50 minutes of exercise three days a week. Excess weight makes young children less flexible and more likely to suffer aches and pains causing them not to want to move and engage in physical activities.

Accessibility to nutrition education programs is limited with the exception of the WIC program. Many of the primary healthcare agencies within southwest Mississippi do not have full-time dietitians to provide education and counseling. Culturally tailored nutrition education program is needed to convince young children of the harmful effects of being overweight or obese.

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

Nutrition and physical activity educational programs and research-based information on childhood obesity have not permeated many of the economically deprived and underserved populations in Mississippi. Development of research, nutrition and physical activity educational programs to mitigate childhood obesity in the state may reduce its prevalence among adolescents and young children. The implementation of these programs will provide adequate knowledge and skills to improve diet and increase physical activities.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to reduce incidences of childhood overweight/obesity in southwest Mississippi through the development and implementation of nutrition and physical activity intervention programs and services. To collect and analyze data regarding the extent to which adolescents and young children suffer from overweight and obesity.

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
2012	0.0	2.0	0.0	2.0
2013	0.0	2.0	0.0	2.0
2014	0.0	2.0	0.0	2.0
2015	0.0	2.0	0.0	2.0
2016	0.0	2.0	0.0	2.0

V(F). Planned Program (Activity)

1. Activity for the Program

- Conduct Research Experiments.

- Conduct Workshops, meetings.

- Deliver Services.

- Curriculum, Resources.

- Provide Training.

- Provide Counseling.

- Assessments.

- Work with Media.

- Partnering.

- Facilitating.

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

Extension

Direct Methods	Indirect Methods

☑ Education Class	☑ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☑ TV Media Programs
☑ Demonstrations	☑ Web sites
☐ Other 1	☐ Other 1
☐ Other 2	☐ Other 2

3. Description of targeted audience

The target audience is limited-resource families and children.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	50	200	200	200
2013	60	250	200	250
2014	100	300	200	250
2015	100	300	200	250
2016	200	400	300	350

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	0	1
2013	1	0	1
2014	1	0	1
2015	1	0	1
2016	2	0	0

V(H). State Defined Outputs

1. Output Target

- Conduct health screening for obesity risk factors in adolescence children.

2012:2 **2013:**3 **2014:**3 **2015:**3 **2016:**3

- Conduct educational program and workshops on obesity and obesity related illnesses.

2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**4

- Conduct intervention to reduce weight gain and lifestyle changes in overweight children.

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase in the number of participants who are aware of the BMI and their weight status using the IBM scale.
2	Increase the number of participants with blood pressure at baseline whose blood pressure is under control because of weight loss.
3	Lower the proportion of participants with high blood cholesterol because they now engage in regular physical activity and practice healthy eating habits.
4	Decrease the body weight by 7-10% of overweight children.
5	Decrease the Body Mass Index (BMI) from baseline for overweight children.

Outcome # 1

1. Outcome Target

Increase in the number of participants who are aware of the BMI and their weight status using the IBM scale.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:100 **2013:**100 **2014:**100 **2015:**100 **2016:**200

3. Associated Knowledge Area(s)

- ☐ 701 - Nutrient Composition of Food
- ☐ 702 - Requirements and Function of Nutrients and Other Food Components
- ☑ 703 - Nutrition Education and Behavior
- ☐ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 2

1. Outcome Target

Increase the number of participants with blood pressure at baseline whose blood pressure is under control because of weight loss.

2. Outcome Type :

- ( ) Change in Knowledge Outcome Measure
- (●) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:100 **2013:**100 **2014:**100 **2015:**100 **2016:**200

3. Associated Knowledge Area(s)

- ☐ 701 - Nutrient Composition of Food
- ☑ 702 - Requirements and Function of Nutrients and Other Food Components
- ☐ 703 - Nutrition Education and Behavior
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 3

1. Outcome Target

Lower the proportion of participants with high blood cholesterol because they now engage in regular physical activity and practice healthy eating habits.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ○ Change in Action Outcome Measure
- ◉ Change in Condition Outcome Measure

2012:10	**2013:**10	**2014:**10	**2015:**10	**2016:**25

3. Associated Knowledge Area(s)

- ☑ 701 - Nutrient Composition of Food
- ☑ 702 - Requirements and Function of Nutrients and Other Food Components
- ☑ 703 - Nutrition Education and Behavior
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 4

1. Outcome Target

Decrease the body weight by 7-10% of overweight children.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:20	**2013:**100	**2014:**100	**2015:**100	**2016:**150

3. Associated Knowledge Area(s)

- ☑ 701 - Nutrient Composition of Food
- ☑ 702 - Requirements and Function of Nutrients and Other Food Components
- ☑ 703 - Nutrition Education and Behavior
- ☑ 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 5

1. Outcome Target

Decrease the Body Mass Index (BMI) from baseline for overweight children.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:25	**2013:**100	**2014:**100	**2015:**100	**2016:**150

3. Associated Knowledge Area(s)

- ☑ 701 - Nutrient Composition of Food
- ☑ 702 - Requirements and Function of Nutrients and Other Food Components
- ☑ 703 - Nutrition Education and Behavior
- ☑ 724 - Healthy Lifestyle

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.)
- ☐ Other

Description

External factors that may affect the outcome of these programs are the shift or change in staffing patterns and resources available to conduct the various educational session activities and events. Natural disasters such as: hurricanes, tornados and floods that cause families to relocate and cause economic distress. Youth and families participating in the program can leave programs because of relocation of the family (youth leaving the school district, parent relocating because of employment). Parents or guardians not giving youth permission to participate in the program (lack of parental consent). Policy changes in local and state public and private schools counties and the availability of transportation for participants could affect program implementation.

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

1. Evaluation Studies Planned

- ☐ After Only (post program)
- ☐ Retrospective (post program)
- ☑ Before-After (before and after program)
- ☐ During (during program)
- ☐ Time series (multiple points before and after program)
- ☑ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

{NO DATA ENTERED}

2. Data Collection Methods

- ☑ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☐ Mail

- ☐ Telephone
- ☐ On-Site

Interview

- ☐ Structured
- ☐ Unstructured

- ☑ Case Study
- ☑ Observation
- ☐ Portfolio Reviews
- ☑ Tests
- ☐ Journals
- ☐ Other

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Community Resource Development and Economic Planning

2. Brief summary about Planned Program

The Community Resource Planning & Economic Development planned program is formulated with a unifying goal to better understand the problems and issues that rural and urban communities encounter in southwest Mississippi. A collaborative effort between the Extension and research staff will promote best community and economic development practices that will reduce problem in rural and urban communities. This methodology will strengthen the capacity of communities while developing their skills in the areas of leadership development, business development, non-profit development, cooperative development, and workforce (career) development.

The Extension and research team will work collaboratively toward the achievement of specific objectives which include: (a) conducting educational programs, events, and activities on leadership development and marketing strategies to facilitate economic and community development opportunities in rural and urban communities; (b) conducting educational programs, events, and activities to facilitate workforce development opportunities for limited-resource audiences; (c) conducting educational programs, events, and activities on cooperative development, home-based, agricultural and non agricultural business development to enhance economic development opportunities in rural and urban communities, and (d) developing educational bulletins, manuscript, and documentation of findings and disseminate results to promote community development and empowerment of residents.

3. Program existence :

- ○ New (One year or less)
- ◉ Intermediate (One to five years)
- ○ Mature (More than five years)

4. Program duration :

- ○ Short-Term(One year or less)
- ○ Medium-Term (One to five years)
- ◉ Long-Term (More than five years)

5. Expending formula funds or state-matching funds :

- ◉ Yes
- ○ No

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

- ○ Yes
- ◉ No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
602	Business Management, Finance, and Taxation		20%		20%
603	Market Economics		20%		30%
608	Community Resource Planning and Development		40%		20%
609	Economic Theory and Methods		20%		30%
	Total		100%		100%

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

1. Situation and priorities

A large number of counties in Mississippi are socio-economically depressed and the region faces other problems that contribute to future deterioration of social and physical infrastructure and economic decline. The unemployment rate in the impoverished counties ranges between 10 and 20%. Most of the counties have per capita income of less than the state's average of approximately $20,000 and others have even lower average income than $15,000. This situation contributes to the poor quality of life that many residents experience, and is one of the reasons why they struggle to free themselves from the burden of poverty. The Association of Community and Economic Development Extension Professionals (NACDEP) have identified two barriers to community development (a) the lack of citizen participation in community and civic activities and (b) the lack of leadership among community leaders. Beaulieu (2002) argues that a vibrant rural America depends in part, on expanding the quality of human capital development and promoting broad-based involvement on individuals in civic life of communities.

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

The mandate of this program is community development which encompasses a strong synergy between Extension and research in socioeconomic issues, human resource development, civic involvement, training and improvement in the quality of life of people and communities. The Extension and research staff recognizes the inherent strength of people and programs working together to achieve common goals. It is imperative that we seek additional support and expertise of volunteers and professionals to work on specialized tasks. The benefits of this program will be unfolded by the cooperative effort of Extension and research staff that will seek to exploit all necessary assets, internal and external, to resolve community issues and build capacity.

2. Ultimate goal(s) of this Program

Empower and improve the quality of life of people to promote sustainable and economic development in communities by utilizing research findings and best community and economic development practices as models.

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
2012	0.0	2.0	0.0	4.0
2013	0.0	2.0	0.0	4.0
2014	0.0	2.0	0.0	4.0
2015	0.0	2.0	0.0	4.0
2016	0.0	2.0	0.0	4.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension and research staff will collaborate with local officials and other entities in communities to

explore and promote best practices in community and economic development as a means of impacting community changes through educational programs, demonstrations, and research. Extension will conduct educational sessions and disseminate information through workshops, seminars, demonstrations, and conferences. These will be geared toward building human capital and effectively empowering people to become the main asset of community and economic development.

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

Extension

Direct Methods	Indirect Methods
☑ Education Class	☑ Public Service Announcement
☑ Workshop	☐ Billboards
☑ Group Discussion	☑ Newsletters
☑ One-on-One Intervention	☐ TV Media Programs
☑ Demonstrations	☑ Web sites
☑ Other 1 (Community Forums)	☐ Other 1
☑ Other 2 (Surveys)	☐ Other 2

3. Description of targeted audience

The targeted audience for the Community Resource Planning and Economic Development planned program are limited-resource individuals and families, community-based organizations, non-profit organizations, cooperatives, entrepreneur, and community leaders.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	500	500	300	500
2013	500	500	300	500
2014	600	600	400	600
2015	600	600	400	600
2016	700	700	450	650

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	2	0
2013	0	2	0
2014	0	2	0
2015	1	2	0
2016	1	2	0

V(H). State Defined Outputs

1. Output Target

- Conduct educational programs, events, and activities on leadership development and marketing strategies to facilitate economic and community development opportunities in communities.
  2012:15 **2013:**17 **2014:**17 **2015:**19 **2016:**19

- Conduct educational programs, events, and activities to facilitate workforce development and financial management opportunities for limited-resource audiences in communities.
  2012:10 **2013:**12 **2014:**12 **2015:**14 **2016:**14

- Conduct educational programs, events, and activities on cooperative development, home-based, and agricultural and non-agricultural business development to enhance economic development opportunities in communities.
  2012:14 **2013:**14 **2014:**15 **2015:**16 **2016:**16

- Conduct social, psychological, marketing, and economic impact surveys to develop profiles of communities and their economic landscape. (Number of surveys).
  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Develop educational bulletins, manuscripts, and documentation of findings and disseminate results and models to promote food security, community development, empowerment of residents (Number of special reports, newsletters, and fact sheets).
  2012:12 **2013:**14 **2014:**16 **2015:**18 **2016:**20

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase the number and/or percent of community leaders to gain knowledge, develop leadership skills and become involved in civic activities, community, and economic development opportunities.
2	Increase the number and/or percentage of participants to utilize research data, knowledge, and skills disseminated to attract and retain businesses, encourage economic development projects, and improve food security.
3	Increase the number and/or percentage of cooperatives to improve their production, marketing, financial, and management practices.
4	Increase the number and/or percentage of individuals to gain awareness of the role of entrepreneurship in achieving economic development.
5	Increase the number and/or percent of community officials and organizations to gain awareness of local issues on food security, economic and demographic profiles of communities.
6	Increase the dissemination of high-tech business information to minority and small businesses of community resource development.

Outcome # 1

1. Outcome Target

Increase the number and/or percent of community leaders to gain knowledge, develop leadership skills and become involved in civic activities, community, and economic development opportunities.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:18	**2013:**20	**2014:**25	**2015:**25	**2016:**30

3. Associated Knowledge Area(s)

- ☑ 602 - Business Management, Finance, and Taxation
- ☑ 603 - Market Economics
- ☑ 608 - Community Resource Planning and Development
- ☑ 609 - Economic Theory and Methods

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 2

1. Outcome Target

Increase the number and/or percentage of participants to utilize research data, knowledge, and skills disseminated to attract and retain businesses, encourage economic development projects, and improve food security.

2. Outcome Type :

- ( ) Change in Knowledge Outcome Measure
- (●) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:10	**2013:**12	**2014:**14	**2015:**14	**2016:**16

3. Associated Knowledge Area(s)

- ☑ 602 - Business Management, Finance, and Taxation
- ☑ 603 - Market Economics
- ☑ 608 - Community Resource Planning and Development
- ☑ 609 - Economic Theory and Methods

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 3

1. Outcome Target

Increase the number and/or percentage of cooperatives to improve their production, marketing, financial, and management practices.

2. Outcome Type :

- ○ Change in Knowledge Outcome Measure
- ◉ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:16	**2013:**18	**2014:**18	**2015:**20	**2016:**22

3. Associated Knowledge Area(s)

- ☑ 602 - Business Management, Finance, and Taxation
- ☑ 603 - Market Economics
- ☑ 608 - Community Resource Planning and Development
- ☑ 609 - Economic Theory and Methods

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 4

1. Outcome Target

Increase the number and/or percentage of individuals to gain awareness of the role of entrepreneurship in achieving economic development.

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ○ Change in Action Outcome Measure
- ○ Change in Condition Outcome Measure

2012:10	**2013:**12	**2014:**14	**2015:**14	**2016:**16

3. Associated Knowledge Area(s)

- ☑ 602 - Business Management, Finance, and Taxation
- ☑ 603 - Market Economics
- ☑ 608 - Community Resource Planning and Development
- ☑ 609 - Economic Theory and Methods

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 5

1. Outcome Target

Increase the number and/or percent of community officials and organizations to gain awareness of local issues on food security, economic and demographic profiles of communities.

2. Outcome Type :

- ◉ Change in Knowledge Outcome Measure
- ◯ Change in Action Outcome Measure
- ◯ Change in Condition Outcome Measure

2012:10	**2013:**12	**2014:**14	**2015:**14	**2016:**16

3. Associated Knowledge Area(s)

- ☑ 602 - Business Management, Finance, and Taxation
- ☑ 603 - Market Economics
- ☑ 608 - Community Resource Planning and Development
- ☑ 609 - Economic Theory and Methods

4. Associated Institute Type(s)

- ☑ 1890 Extension
- ☑ 1890 Research

Outcome # 6

1. Outcome Target

Increase the dissemination of high-tech business information to minority and small businesses of community resource development.

2. Outcome Type :

- (●) Change in Knowledge Outcome Measure
- ( ) Change in Action Outcome Measure
- ( ) Change in Condition Outcome Measure

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

3. Associated Knowledge Area(s)

- ☑ 602 - Business Management, Finance, and Taxation
- ☑ 603 - Market Economics
- ☑ 608 - Community Resource Planning and Development
- ☑ 609 - Economic Theory and Methods

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.)
- ☐ Other

Description

The unpredictable weather conditions during certain times of the year may restrict project activities such as survey administration, community meetings, workshops during projected periods of Extension and research activities. Over a period of years the local and national economies are likely to decline due to the changing business cycles and changes in funding opportunities. Legislative polices and variations in appropriation priorities may affect funding. This shift will hamper funding for community and economic development projects. Federal and local government policies may change which would constrain some of planned programs. Social, economic, and demographic changes in various communities may force certain authorities to modify their public priorities. Pending changing in immigration laws may affect migration and other demographic issues, public policies, and program priorities.

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

1. Evaluation Studies Planned

- ☐ After Only (post program)
- ☐ Retrospective (post program)
- ☐ Before-After (before and after program)
- ☐ During (during program)
- ☐ Time series (multiple points before and after program)
- ☐ Case Study
- ☐ Comparisons between program participants (individuals, group, organizations) and non-participants
- ☐ Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- ☐ Comparison between locales where the program operates and sites without program intervention
- ☐ Other

Description

{NO DATA ENTERED}

2. Data Collection Methods

- ☐ Sampling
- ☐ Whole population

Survey (Mail, Telephone, On-Site).

- ☐ Mail
- ☐ Telephone
- ☐ On-Site

Interview

- ☐ Structured
- ☐ Unstructured

- ☐ Case Study
- ☐ Observation
- ☐ Portfolio Reviews
- ☐ Tests
- ☐ Journals
- ☐ Other

Description

{NO DATA ENTERED}