National Research Agenda
Agricultural Education and Communication

Research Priority Areas and Initiatives

2007-2010

A joint project of the

American Association for Agricultural Education (AAAE)
Association for Communication Excellence (ACE)
Association for International Agricultural and Extension Education (AIAEE)
Association of Leadership Educators (ALE)
NCAC-24, Experiment Station Committee on Organization and Policy
The National Council for Agricultural Education

This document is the first national research agenda to be developed and formally embraced by the broader discipline of agricultural education and communication. Members of the profession have long recognized the value of such a document for effectively communicating research priorities to numerous state and national interests, including Agricultural Experiment Station directors, USDA program administrators, and funding agencies. Further, coordination of research efforts within the discipline—from research priorities in individual academic departments to regional and national initiatives led by research teams—will be enhanced by this work. The development of a national research agenda coincides with increasing recognition in colleges of agricultural and life sciences and related agencies of the value and unique contributions of social science research in developing sound solutions for complex agricultural problems. Effective education and communication strategies are indeed integral to the development, acceptance, and evaluation of creative solutions in agriculture and natural resources.

The 27-member development team met in Orlando, Florida in December 2005 to begin work on this national research agenda. The initial product from this three-day session included draft research priorities for each of the five major dimensions of the discipline. This final product uses a four-level framework for detailing these research priorities. The ***National Research Agenda*** is first organized into the five broad disciplinary dimensions: agricultural communications, agricultural leadership, extension and outreach education, agricultural education in university and postsecondary settings, and school-based agricultural education. ***Research Priority Areas*** (RPAs) are broad research imperatives within each of these five disciplinary dimensions. Each RPA includes up to four ***Key Research Questions***, or critical research problems. Finally, specific dimensions of each key research question, designated as ***Priority Initiatives,*** have also been identified. This document contains the complete ***National Research Agenda for Agricultural Education and Communication***, and a copy is also posted on the websites of the professional societies and organizations that collaborated in developing this document. Comments and suggestions for future updates should be directed to the president or other designated representative for those organizations. A complementary, abbreviated version of the national research agenda containing only the ***Research Priority Areas*** and ***Key Research Questions*** for each of the five dimensions of the discipline has also been produced. The full engagement of Agricultural Education and Communication faculty and graduate students in the pursuit of this ***National Research Agenda*** and their continuous dialogue with researchers and administrators in the agricultural and life sciences hold the promise of advancing the discipline while providing research-based solutions that address complex human interactions in agriculture and natural resources.

Ed Osborne
Project Coordinator
University of Florida

As used in this document, ***Agricultural Education and Communication*** includes agricultural education in schools, universities, and other postsecondary institutions; extension and other nonformal, community education, and outreach programs; leadership development in individuals, communities, organizations, and agencies; and communication within and throughout the agricultural and natural resources industries. Also included are university programs designed to develop educators, leaders, and professional communicators for all aspects of the vast agriculture industry. Agricultural Education and Communication is a broad, applied field that draws foundational knowledge from psychology and sociology, while focusing on the human dimensions of science and practice in agriculture and natural resources management.

Development Team for the National Research Agenda

Dr. Bob Birkenholz
Professor, Agricultural Education
The Ohio State University

Lyn Cacella-Dubois
Vice President, Marketing/Communications
Farm Credit of South Florida

Dr. Bill Camp
Professor, Agricultural Education
Cornell University

Dr. Dwayne Cartmell
Assistant Professor, Agricultural Communications
Oklahoma State University

Dr. Larry Case
Coordinator, Agricultural and Rural Education
U.S. Department of Education

Bill Davenport
Agriscience Teacher
Ellis Clark Regional Agriculture Center
Woodbury, CT

Dr. David Doerfert
Associate Professor, Agricultural Communications
Texas Tech University

Dr. Jim Dyer
Associate Professor, Agricultural Education
University of Florida

Dr. Jim Evans
Professor Emeritus, Agricultural Communications
University of Illinois

Dr. Susan Fritz
Associate Vice Chancellor and Professor Leadership Education
University of Nebraska

Dr. Tracy Irani
Associate Professor, Agricultural Communications
University of Florida

Dr. Jay Jackman
Executive Director
National Association of Agricultural Educators

Dr. Dick Joerger
Assistant Professor, Agricultural Education
University of Minnesota

Dr. Robert Martin
Professor, Agricultural and Extension Education
Iowa State University

Anna Melodia
Director, Research, Development and Sponsored Programs
National FFA Organization

Dr. Greg Miller
Professor, Agricultural Education
Iowa State University

Casey Pace
Director of Public Affairs, Florida Citrus Mutual
Lakeland, FL

Dr. Nick Place
Associate Professor, Extension Education
University of Florida

Dr. Rick Rudd
Associate Professor, Leadership Education
University of Florida

Mary Beth Salisbury
Osceola County Extension Director
Kissimmee, FL

Tony Small
Director, Education Division
National FFA Organization

Dr. Greg Thompson
Associate Professor, Agricultural Education
Oregon State University

Dr. Bobby Torres
Professor, Agricultural Education
University of Missouri

Dr. Chris Townsend
Professor, Leadership Education
Texas A&M University

Dr. Cary Trexler
Assistant Professor, Agricultural Education
University of California-Davis

Dr. Bill Weeks
Professor, Leadership Education
Oklahoma State University

Project Planning Team

The overall strategy for the project, including the identification of development team members, was determined by members of the project planning team as listed below. Also provided are the institutional affiliations and professional society leadership positions held by planning team members at the time the project was initiated.

Dr. Bill Camp – President, AAAE (Cornell University)
Dr. Kris Boone – Vice President, ACE (Kansas State University)
Dr. Rick Rudd – President, ALE (University of Florida)
Dr. Nick Place – Vice President, AIAEE (University of Florida)
Dr. Bob Birkenholz – Chair, NCAC-24 (The Ohio State University)
Dr. Jim Dyer – Chair, AAAE Research Committee (University of Florida)
Doug Loudenslager – Chief Operating Officer, FFA (National FFA Organization)
Dr. Larry Case – Coordinator for Agricultural and Rural Education (US Department of Education)

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For more information or to request additional copies:

Dr. Ed Osborne, Editor and Project Coordinator
Professor and Chair
Department of Agricultural Education and Communication
University of Florida
PO Box 110540
Gainesville, FL 32611-0540
352-392-0502 ext. 231
ewo@ufl.edu

Research Priority Areas

Agricultural Communications

- Enhance decision making within the agricultural sectors of society.
- Within and among societies, aid the public in effectively participating in decision making related to agriculture.
- Build competitive societal knowledge and intellectual capabilities.
- Develop effective agricultural work forces for knowledge-based societies.

Agricultural Leadership

- Develop and disseminate effective leadership education programs.
- Support leadership opportunities for underrepresented populations.
- Ensure leader succession in sustaining agricultural enterprises, and enhance citizen engagement in rural and urban community development.
- Engage citizens in community action through leadership education and development.

Agricultural Education in Domestic and International Settings: Extension & Outreach

- Ascertain the public's knowledge, views and openness regarding the agri-food and natural resource system.
- Identify the needs and competencies of stakeholders and professional practitioners in nonformal agricultural extension education.
- Identify appropriate learning systems to be used in nonformal education settings.
- Examine appropriate nonformal educational delivery systems.
- Identify and use evaluation systems to assess program impact.

Agricultural Education in University and Postsecondary Settings

- Recruit and prepare students for the future workforce in the agricultural and life sciences.
- Improve the success of students enrolled in agricultural and life sciences academic and technical programs.
- Enhance the effectiveness of agricultural and life sciences faculty.
- Assess the effectiveness of educational programs in agricultural and life sciences.

Agricultural Education in Schools

- Enhance program delivery models for agricultural education.
- Provide a rigorous, relevant, standards-based curriculum in agricultural, food, and natural resources systems.
- Increase access to agricultural education instruction and programming.
- Prepare and provide an abundance of fully qualified and highly motivated agricultural educators at all levels.
- Determine the effects of agricultural education instruction.

Agricultural Communications

RPA 1: Enhance decision making within the agricultural sectors of society.

- Who are the relevant agricultural audiences with respect to high priority issues?
- What are the most effective ways to identify and communicate information that has economic and social value?
- What information do various stakeholders need to make informed decisions?

RPA 2: Within and among societies, aid the public in effectively participating in public decision making related to agriculture.

- How do we reach, create awareness and constructively engage the public in high priority agricultural issues?
- How do we identify, assimilate, disseminate, format and evaluate relevant information that facilitates public decision-making about high priority agricultural issues?
- How do we improve the effectiveness of mass media coverage of agricultural issues?
- How will emerging technologies impact the flow of agriculture-related information in support of public participation?

RPA 3: Build competitive societal knowledge and intellectual capabilities.

- How do we improve thinking processes and problem solving capabilities through the effective use of information systems?
- How does information and media delivery affect thinking processes, problem solving and decision making related to agriculture?
- How can we gather and make available the widely scattered literature about agriculture-related communications internationally?
- How do we use communications networks, linkages, and approaches more effectively in agricultural knowledge management?

RPA 4: Develop effective agricultural work forces for knowledge-based societies.

- What are the theoretical underpinnings of and synergistic relationships between the knowledge management concept and agricultural communications as a field of research, education, and practice?
- What are the skills and competencies necessary to improve the communications and knowledge management effectiveness of all in the agriculture-related workforces of societies?
- What are the skills, competencies, and resources necessary to prepare professional agricultural communicators for success in various aspects of agricultural knowledge management?

Agricultural Leadership

RPA 1: Develop and disseminate effective leadership education programs.

- How can leadership education programs be designed and implemented to increase the leadership capacity of youth, communities, higher education, agribusiness, and allied organizations in domestic and international settings?

RPA 2: Support leadership opportunities for underrepresented populations.

- How will the inclusion of underrepresented populations enhance leadership capacity in youth, communities, higher education, agribusiness, and allied organizations in domestic and international settings?

RPA 3: Ensure leader succession in sustaining agricultural enterprises, and enhance citizen engagement in rural and urban community development.

- How can sustainable leadership transitions be achieved in youth organizations, communities, higher education, and agribusiness and allied organizations?

RPA 4: Engage citizens in community action through leadership education and development.

- How can rural, urban, and international community development be sustained and enhanced by incorporating leadership education and development programs into community activities?

Agricultural Education in Domestic and International Settings: Extension & Outreach

RPA 1: Ascertain the public's knowledge, views and openness regarding the agri-food and natural resource system.

- How do the knowledge, views, and opinions of stakeholders and the public at large influence the agri-food and natural resource system and shape the role of agricultural extension education in this system?
- What is the role of agricultural extension education in the global marketplace?
- How can agricultural extension education help develop an international perspective in all nonformal educational programs?

RPA 2: Identify the needs and competencies of stakeholders and professional practitioners in nonformal agricultural extension education.

- What are the various knowledge bases and skills required by practitioners in nonformal agricultural extension education programs?
- How can agricultural extension education contribute to the sustainability of local and global communities and cultures and their unique identities?
- What professional competencies are required of all agricultural extension educators that prepare them to be successful agents of change?

RPA 3: Identify appropriate learning systems to be used in nonformal education settings.

- What learning systems are most appropriate for nonformal agricultural extension education program participants?
- How can the principles of learning most appropriately be applied in a global context?
- How does learning theory influence program development in nonformal agricultural extension education?

RPA 4: Examine appropriate nonformal educational delivery systems.

- What nonformal educational delivery systems are most likely to promote learning?
- What technologies will increase the effectiveness of agricultural extension education programs worldwide?
- What are the guiding teaching principles for successful delivery of nonformal educational programs based upon cultural and regional differences?

RPA 5: Identify and use evaluation systems to assess program impact.

- What is the impact of the agricultural and extension education/leadership and communications programs as delivered via nonformal delivery systems?
- How can agricultural extension education make a difference in an increasingly complex global arena?
- How do the principles of teaching and learning in a nonformal educational setting influence sustainable development and enhancement of the global community?

Agricultural Education in University and Postsecondary Settings

RPA 1: Recruit and prepare students for the future workforce in the agricultural and life sciences.

- What strategies are effective in recruiting students into colleges of agricultural and life sciences and technical agriculture postsecondary programs?
- What is the current and future supply and demand for employment in the agricultural and life sciences?

RPA 2: Improve the success of students enrolled in agricultural and life sciences academic and technical programs.

- What factors are predictive of student success in college?
- What teaching, advising, and mentoring strategies most effectively and efficiently yield desired student outcomes with particular groups of students?
- How do experiential learning applications contribute to student success?
- To what extent is the leadership ability of students enhanced through leadership experiences, curricula, and student organizations?

RPA 3: Enhance the effectiveness of agricultural and life sciences faculty.

- How do specific faculty development interventions improve the teaching and learning process?
- What interventions contribute to faculty success and retention?
- What factors contribute to faculty motivation to participate in professional development programs?
- What is the value of industry-education partnerships and exchanges for enhancing instructor effectiveness?

RPA 4: Assess the effectiveness of educational programs in agricultural and life sciences.

- What are the effects of educational programs in agricultural and life sciences?
- How well do program graduates perform in the workplace?

Agricultural Education in Schools

RPA 1: Enhance program delivery models for agricultural education.

- What types of program delivery models best respond to the changing population?
- How do agricultural education program delivery models enhance food, fiber and natural resource systems?
- How do the components of an agricultural education program influence student success and overall program quality?

RPA 2: Provide a rigorous, relevant, standards-based curriculum in agricultural, food, and natural resources systems.

- What instructional strategies in agricultural education programs promote increased student achievement in the traditional academic areas?
- How can agricultural education programs most effectively prepare students for career success in a competitive world marketplace?

RPA 3: Increase access to agricultural education instruction and programming.

- What models are effective for recruiting and retaining students in agricultural education programs?
- What strategies show promise in expanding enrollment in quality agricultural education programs?
- What marketing strategies are effective methods in garnering support for agriculture programs?

RPA 4: Prepare and provide an abundance of fully qualified and highly motivated agricultural educators at all levels.

- What models of agricultural teacher preparation are most effective in preparing agricultural educators for middle and secondary schools and postsecondary institutions?
- What are the professional development needs of agricultural educators?
- What models are most effective in preparing university teacher education faculty?

RPA 5: Determine the effects of agricultural education instruction.

- How does student participation in agricultural education programs contribute to premier leadership, personal growth, and career success?
- How do agricultural education programs contribute to student achievement and performance?
- How do quality agricultural education programs contribute to school and community vitality?

Agricultural Communications

As a field of teaching, research, and practice, agricultural communications seeks to support and improve human interaction and decision making related to agriculture, broadly defined. With special traditions and strengths in journalism and mass communications, it partners with other social sciences, including school-based interests of agricultural education and nonformal education endeavors such as extension services. Communication interests range across all levels, settings, and means of communicating – intrapersonal, interpersonal, group, and mass. Agricultural interests include all subject areas related to the complex global enterprises of food, feed, fiber, bio-based energy, genomics, natural resources management, and rural development. Agricultural dimensions also span all participants in, and stages of, the food enterprise of societies, from agricultural research, policies, finance, and production to food safety and security, consumption, nutrition and health, and human well-being. The concept of agricultural knowledge management serves as the framework for an integrated, comprehensive research agenda in agricultural communications.

RPA 1: Enhance decision making within the agricultural sectors of society.[1]

Who are the relevant agricultural audiences with respect to high priority issues? *Developing knowledge management systems that enhance the decision-making and problem-solving abilities of the various stakeholders in the agricultural sectors of societies requires a deeper understanding of the audiences, their behaviors, and their needs.*

Priority Initiatives

- Develop and improve tools for identification and communications analysis of local, national, and international audiences and issues to help guide coordinated agricultural communications initiatives.
- Determine information needs and preferences of identified local, national, and international audiences.
- Determine sources of information and factors that influence source trust and credibility.

What are the most effective ways to identify and communicate information that has economic and social value? *In the Industrial Era, we focused on raw materials. In the Knowledge Era, we are not just working with raw materials but also raw ideas (Bertels & Savage, 1999). Value will lie not only in explicit knowledge but in the tacit knowledge that lies within each individual.*

Priority Initiatives

- Analyze roles, usage and effectiveness of information structures, systems and concepts in communicating local, national, and international agricultural information.
- Analyze and strengthen the effectiveness of communications content and methods in communicating local, national, and international agricultural information.
- Analyze and strengthen effectiveness of information technologies in communicating agricultural information.
- Strengthen guidelines for using planned, coordinated approaches rather than piecemeal approaches to communications in agricultural decision making.

What information do various stakeholders need to make informed decisions? *Knowledge management is a conscious strategy of getting the right information to the right people at the right time so they can take action and create value (O'Dell & Grayson, Jr., 1998).*

Priority Initiatives

- Assess the impact of information on informed decision making.
- Develop guidelines for providing information that balances perspectives of change and stability in agriculture-related decision making within and among societies.
- Analyze past and current patterns of conflict avoidance and resolution in the agriculture/food complex.
- Use normative inquiry in analyzing agriculture-related communications systems, programs, and methods at local, national, and international levels.

RPA 2: Within and among societies, aid the public in effectively participating in public decision making related to agriculture.

How do we reach, create awareness, and constructively engage high-priority agricultural issues? *Informed decision making is important for all citizens of a democracy and is vital for leaders in government and industry whose decisions influence the health and welfare of communities, the nation, and the agriculture industry.*

Priority Initiatives

- Develop and test guidelines for building coalitions for public decision making related to agriculture.
- Adapt and develop models of collaboration, mediation and conflict management to advance agricultural decision-making efforts beyond conflict-based approaches.

[1]This encompasses all aspects of the agricultural enterprise of societies including but not limited to food, fiber, natural resources, environment, nutrition and health, rural interests and other related sectors.

- Examine the extent, forms, outcomes and effectiveness of public participation regarding agricultural-related decision making.
- Analyze the communications aspects of current and emerging social movements related to agricultural issues.

How do we identify, assimilate, disseminate, format, and evaluate relevant information that facilitates public decision making about high priority agricultural issues? *Most issues relating to agriculture are complex and include a varying degree of risk. Provided with reliable information and given solid tools with which to process it, people will make informed decisions that are good for themselves, society, and the world.*

Priority Initiatives

- Examine and assess the quality and adequacy of information available for local, national, and international public decision making about high-priority agricultural issues, current and past.
- Understand how the public interprets, creates meaning, and values information related to high-priority agricultural issues.
- Identify information asymmetries, barriers and imperfections in public participation of the decision-making process on high-priority agricultural issues.

How do we improve the effectiveness of mass media coverage of agricultural issues? *The mass media are one of the major sources of information for most individuals and groups. Therefore, the media's ability to present adequate, thorough, accurate, and balanced information on a variety of agriculture issues at local, national, and international levels is critical to the industry's future.*

Priority Initiatives

- Develop ways to monitor the rural-urban interface continuously to anticipate social issues that involve agriculture and proactively engage mass media in covering them.
- Examine the amount and effectiveness of media coverage of agriculture-related topics, current and past.
- Improve strategies to strengthen media coverage of agriculture-related issues and improve the thoroughness, accuracy, completeness and overall quality of it.
- Test in-service training methods for helping mass media professionals improve their skills in covering agriculture.

How will emerging technologies impact the flow of agriculture-related information in support of public participation? *Factors of place and time no longer limit the flow of information. The impact of digital and wireless technologies on knowledge management-related behaviors is currently unknown.*

Priority Initiatives

- Identify, adapt and test new, emerging and changing information technologies for application in agricultural knowledge management.
- Use media theory tools for improving applications of new and traditional media in engaging the public in agriculture-related decision making.

RPA 3: Build competitive societal knowledge and intellectual capabilities.

How do we improve thinking processes and problem solving capabilities through the effective use of information systems? *We begin to understand that information only comes alive by our interpretation; we create meaning by distinguishing and valuing information. Understanding the interplay between data, information and meaning will require more than sophisticated models of data storage and will force us to understand the process of creating meaning (Bertels & Savage, 1999).*

Priority Initiatives

- Identify and analyze the drivers of local, national, and international cultural change within public agencies, agricultural organizations, and firms, and media institutions as a guide for improving agricultural information systems.
- Monitor knowledge transfer systems and knowledge flows related to specific settings for agriculture-related decisions, and develop ways to improve effectiveness.

How does information and media delivery affect thinking processes, problem solving, and decision-making related to agriculture? *The task is not just to structure the information, but it is to structure the whole process of acquiring, processing and sorting out this information and discovering its meaning. In other words, we need to put whole systems together from which we can effectively see patterns and act in a timely manner (Bertels & Savage, 1999).*

Priority Initiatives

- Examine the role and effectiveness of information in agriculture-related decision making of individuals, groups and societies.
- Analyze how professional communicators gather, process and use information to plan their approaches to agriculture-related communications.

How can we gather and make available the widely scattered literature about agriculture-related communications internationally? *Megatrends (Naisbitt, 1982) described uncontrolled and unorganized information as an enemy in an information society. The capturing and sharing of information*

in a useable format is critical to the future of the agriculture industry.

Priority Initiatives

- Analyze and seek ways to strengthen efforts of the Agricultural Communications Documentation Center and other mechanisms to identify and process such literature, and to make it more widely and readily available.
- Develop ways to capture and share expert knowledge related to agriculture, from traditional knowledge through the latest research-based knowledge.

How do we use communications networks, linkages, and approaches more effectively in agricultural knowledge management? *Digital communications have allowed the sharing of information beyond traditional communications boundaries of place and time. Implementing new, flexible technologies and systems that support and enable communities of practice and other informal and semi-formal networks of individuals and organizations based on shared concerns and interests is critical to our future.*

Priority Initiatives

- Experiment with knowledge management tools such as communities of practice, expert communicator networks and other knowledge exchange mechanisms to strengthen agriculture-related decision making.
- Examine ways in which to identify existing professional agricultural communicator organizations, globally, and foster linkages among them to mutual advantage.

RPA 4: Develop effective agricultural workforces for a knowledge-based society.

What are the theoretical underpinnings of and synergistic relationships between the knowledge management concept and agricultural communications as a field of research, education, and practice? *Knowledge management embodies organizational processes that seek synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings.*

Priority Initiatives

- Analyze features and potentials of knowledge management concepts and technologies as an integrative framework for agricultural communications research.
- Examine the theoretical base for agricultural communications research, including connections between it and related disciplines.

What are the skills and competencies necessary to improve the communications and knowledge management effectiveness of all in the agriculture workforces of societies? *Any society is dependent upon the capability of its workforce. In today's global economy where knowledge and information determine competitiveness, a major objective is to develop and maintain the ability of its citizens to perform skilled and knowledge intensive tasks.*

Priority Initiatives

- Develop strategies and mechanisms to strengthen communications skills and perspectives of all agricultural professionals as they prepare for and grow in their careers.
- Develop strategies and mechanisms to increase critical thinking skills of all agricultural professionals as they prepare for and grow in their careers.

What are the skills, competencies, and resources necessary to prepare professional agricultural communicators for success in various aspects of agricultural knowledge management? *Agricultural communications professionals will be among the leaders in creating knowledge management systems for the industry. As such, their knowledge, skills, and abilities must be at a level that ensures their continued success.*

Priority Initiatives

- Identify and analyze the communications skills and perspectives necessary within the diverse career sectors in which professional agricultural communicators work currently and may work in the future.
- Provide insights to strengthen courses, curricula and other aspects of academic programs in agricultural communications, agricultural journalism, development communications, life science communications, and related professional areas of interest.
- Develop and enhance mechanisms to strengthen the knowledge base for professional agricultural communicators and provide career-long professional learning opportunities for them.
- Identify guidelines for strengthening professional development in the international, cross cultural perspectives and skills agricultural communicators need.

Agricultural Leadership

What is the place of leadership education within colleges of agriculture? What is the role of agricultural leadership educators as they tackle the serious task of preparing their clientele to face the changing world of agriculture and life sciences? Certainly, leadership education has a rich history in university-based academic programs in agriculture, and most departments of agricultural education have provided the bulk of this instruction for decades. As far back as the early 1900s, leadership educators have been formally prepared to advise FFA and 4-H members. An overarching research paradigm considers the factors that affect the success of agricultural leadership education programs. These factors include selection of appropriate theory, teaching methods, delivery media, and program designs. In addition, several student attributes, such as gender, learning style, ethnicity, age, and leadership experience, are elements of this research program. Finally, specific skills, behaviors, and the environment of practicing agricultural leaders should be investigated to ascertain their impact and inclusion in leadership education programs. Scholars are discovering theories for effective agricultural leadership and are using those basic principles to develop successful agricultural leadership education programs. Research in agricultural leadership drives programming, practice, and development, while generating new knowledge and theory to support effective leadership practices in industry and community settings.

RPA 1: Develop and disseminate effective leadership education programs.

How can leadership education programs be designed and implemented to increase the leadership capacity of youth, communities, higher education, agribusiness, and allied organizations in domestic and international settings? *Enhancing the leadership capacity of various entities associated with agricultural industries will ensure politically sound policies for food and fiber production in a global economy.*

Priority Initiatives

- Examine the theoretical foundations and objectives of existing leadership education programs.
- Determine and address the unmet needs of leaders.
- Identify research-based strategies for designing, disseminating, and evaluating leadership education programs.
- Generate new leadership theory by conducting original research and translational studies that include longitudinal analysis, dissemination, and evaluation efforts.

RPA 2: Support leadership opportunities for underrepresented populations.

How will the inclusion of underrepresented populations enhance leadership capacity in youth, communities, higher education, agribusiness, and allied organizations in domestic and international settings? *As the population of the world shifts to reflect greater cultural diversity, educational programs must cultivate future leaders from throughout society who are well prepared to lead in a rapidly changing domestic and global environment.*

Priority Initiatives

- Apply theory in the development of leadership education programs within culturally diverse contexts, while enhancing the decision making and problem solving capacities of all leaders.
- Identify common leadership beliefs, practices, and values among various cultures, and investigate how they impact leadership program design and effectiveness.
- Evaluate the roles and effectiveness of cultural brokers (people who interpret political, social, and economic structures of the majority culture for the underrepresented culture) in acculturation.
- Develop effective acculturation practices by analyzing gender and cultural barriers for career entry, retention, and advancement of leaders.

RPA 3: Ensure leader succession in sustaining agricultural enterprises, and enhance citizen engagement in rural and urban community development.

How can sustainable leadership transitions be achieved in youth organizations, communities, higher education, and agribusiness and allied organizations? *Leadership theory and associated skills must be transferred to leadership roles in communities and organizations. Successful transition from leadership education program participation to application settings is critical to enhanced leadership capacity within agricultural industries.*

Priority Initiatives

- Identify the motivators, barriers, and quality of life factors that influence the pursuit of employment within agricultural enterprises.
- Identify motivators and barriers to attaining leadership positions.
- Implement and evaluate effective mentoring practices that encourage leadership development.
- Profile positive succession plans that support organizational continuity during leadership transitions.
- Assess the effectiveness of leadership succession models in organizations.

RPA 4: Engage citizens in community action through leadership education and development.

How can rural, urban, and international communities be sustained and enhanced by incorporating leadership

education and development programs into community activities? *Viable communities require effective local leadership. Well designed leadership education programs for community leaders have the potential to stimulate positive community growth, generate greater citizen involvement in local decision making, and develop model communities that support agricultural enterprises.*

Priority Initiatives

- Determine the effects of enhanced leadership education and citizen engagement in building sustainable agricultural enterprises in communities, agribusiness, and allied industries in domestic and international settings.
- Identify the strategies that successful leaders use to enhance citizen engagement in community issues and programs.
- Determine the competencies used by community leaders for improving communities, interacting with constituents, and solving community issues.
- Examine the processes by which youth and adults become effective citizen leaders.
- Identify educational strategies and programs that develop and enhance local leadership.

Agricultural Education in Domestic and International Settings: Extension and Outreach

Extension systems the world over represent one of the largest nonformal educational entities available to the public. The concept of developing a domestic and global network of nonformal educators focused on enhancing the engagement of learners in the context of agriculture provides the foundation for an integrated, comprehensive research agenda in agricultural extension education.

RPA 1: Ascertain the public's knowledge, views, and opinions regarding the agri-food and natural resource system.

How do the knowledge, views, and opinions of stakeholders and the public-at-large influence the agri-food and natural resource system and shape the role of agricultural extension education in this system? *The actual and potential target audience for agricultural education has expanded. A systems approach calls for an expansion of the educational focus to address the needs of all stakeholders in that system. The span of influence extends from producers to consumers including policymakers, political leaders, and entrepreneurs in the global marketplace. Research is needed that focuses on stakeholder input at all levels of the agri-food system.*

Priority Initiatives

- Determine the public's values, ethics, and attitudes toward agriculture.
- Identify the public's perceptions of agriculture and agricultural and extension education.
- Identify the core knowledge and understandings required for participatory policy development in the agri-food and natural resource system: local, regional, national and global, paying particular attention to those sectors of society that are typically marginalized in most current processes.
- Determine policymakers' views and attitudes regarding agriculture and extension education.

What is the role of agricultural extension education in the global marketplace? *All viable educational systems have a stake in enhancing the exchange of new knowledge, ideas and technologies around the world. For example, those who desire to access an increasingly complex global market must have a firm understanding of the global food chain, beginning with targeted consumer behavior.*

Priority Initiatives

- Examine the role of production systems in relation to accessing the global and local marketplace, free trade versus fair trade issues and household food security needs.
- Identify unique characteristics of selected systems of agricultural extension education.
- Determine participant perceptions of selected systems of agricultural extension education.

How can agricultural extension education help develop an international perspective in all nonformal educational programs? *The extent to which agricultural extension education programs are successful may be dependent upon the extent to which there is a global perspective considered in their delivery. Research is needed to focus on how a broader global perspective to education in agriculture can be developed.*

Priority Initiatives

- Determine the best practices used in adding a global perspective to agricultural extension education programs.
- Identify the components of a global perspective that can be delivered by nonformal educational systems.
- Develop a model to guide the addition of global perspectives to programs in agricultural extension education.

RPA 2: Identify the needs and competencies of stakeholders and professional practitioners in nonformal agricultural extension education.

What are the various knowledge bases and skills required by practitioners in nonformal agricultural extension education programs? *Needs assessment and analysis provide the foundation for development and delivery of educational programs at all levels and in all contexts. Research is needed that will provide direction to program planners, facilitators and managers. Needs assessment and analysis is essential for appropriate transfer of technology.*

Priority Initiatives

- Identify the competencies needed by agricultural extension practitioners.
- Determine the leadership knowledge and skills required by public and nongovernmental (for profit or nonprofit) organizations.
- Determine how field personnel and organizations make decisions and solve problems.
- Describe the approaches used by organizations relative to achieving goals associated with sustainable agriculture, sustainable communities, health, food security and safety, nutrition and wellness.
- Identify the technical agriculture needs of practitioners in various cultural and societal settings.

How can agricultural extension education contribute to the sustainability of local and global communities and cultures and their unique identities? *In order to solve problems and address the needs of people working in agriculture interventions for biophysical and socio-economic systems must be carefully planned and delivered. There must be a sustainable system that adjusts to change and adapts to new challenges and opportunities.*

Priority Initiatives

- Identify the issues of sustainability impacting agricultural extension education systems.
- Determine how community biophysical and household contexts can be understood based upon statistical, economic, geo-spatial, qualitative and antidotal data.
- Describe the role of knowledge community development in light of Jergen Habermas's Generic Domains of Human Interest (work knowledge, practical knowledge, and emancipatory knowledge).

What professional competencies are required of all agricultural extension educators that prepare them to be successful agents of change? *There is a critical need for change agents to understand situational needs and the needs analysis process. Research is needed to identify the characteristics of effective change agents and how these agents of change should be educated.*

Priority Initiatives

- Identify the professional competencies of change-agents in agricultural extension education.
- Describe the best practices used by change-agents.
- Assess the impact of change-agent skills and knowledge in a variety of settings.

RPA 3: Identify appropriate learning systems to be used in nonformal education settings.

What learning systems are most appropriate for nonformal agricultural extension education program participants? *Learning is a complex process and is unique to the individual and his/her circumstances and the context in which he/she lives. The more that is discovered about learning the greater the opportunity there is to enhance the teaching-learning process. Research is needed to enhance our understanding about learning in the context of agriculture.*

Priority Initiatives

- Explain how people learn differently through the lifespan in different cultures and agricultural settings.
- Identify what motivates stakeholders to participate in agricultural education/communications/leadership programs.
- Describe the cultural and social trends that affect learning.
- Determine how social/cultural differences affect learning.
- Explain the learning systems of various cultures, societies, and communities and their role in education about agriculture.

How can the principles of learning most appropriately be applied in a global context? *There is much about the learning process that is known, but there is much more that is not known. Research is needed to describe the learning processes that have the greatest impact on nonformal learning in a variety of local and global settings.*

Priority Initiatives

- Identify nonformal learning and engagement in a variety of settings associated with agricultural extension education.
- Assess the impact of adoption-diffusion practices in agricultural extension education.
- Describe nonformal learner-centered programs used in agricultural extension education.

How does learning theory influence program development in nonformal agricultural extension education? *When educational programs are planned, there is concern that learning theory may or may not be a part of the planning process. Research is needed to determine the influence learning should have on planning nonformal educational programs.*

Priority Initiatives

- Describe trends in program development focused on nonformal learning.
- Explain the pros and cons of interdisciplinary approaches to nonformal learning and program development in agricultural extension education.
- Describe the influence of learning theory on program development.

RPA 4: Examine appropriate nonformal educational delivery systems.

What nonformal educational delivery systems are most likely to promote learning? *Technological changes have had significant impacts on agriculture as well as educational delivery systems. Communication technologies and other social learning approaches greatly influence behavioral changes about agriculture. Research is needed to assess issues related to dissemination and assimilation of new agricultural technologies.*

Priority Initiatives

- Identify the most effective and efficient educational delivery systems for the preparation of educators, communicators and leaders.
- Identify how stakeholders obtain information to solve problems.
- Examine the delivery of education in agriculture in various cultures and societies.

What technologies will increase the effectiveness of agricultural extension education programs worldwide? *The impact of communication technologies cannot be underestimated but their effectiveness is not always clear. Research is needed to determine the best technologies and the best practices associated with them for delivery of agricultural extension education programs.*

Priority Initiatives

- Analyze the most effective instructional technologies that promote learning by participants in nonformal educational programs.
- Describe the best practices in using new communication technologies in nonformal instruction.
- Explain how delivery systems are influenced by culture and societal norms.

What are the guiding teaching principles for successful delivery of nonformal educational programs based on cultural and regional differences? *The principles that guide our delivery of nonformal education programs require a deeper understanding of the context, culture and societal norms than is currently known.*

Priority Initiatives

- Assess the guiding teaching principles used in various delivery systems, cultures, and regions of the world.
- Compare and contrast the effectiveness of selected principles and delivery systems.
- Describe the strengths and weaknesses of selected delivery systems.

RPA 5: Identify and use evaluation systems to assess program impact.

What is the impact of the agricultural and extension education/leadership and communications programs as delivered via nonformal delivery systems? *Accountability pervades almost every aspect of all societies and cultures. Agricultural and extension education programs are being closely monitored to ensure that the goals and objectives are appropriate and feasible. Research is needed to improve the evaluation process and enhance the quality of these agricultural and extension education programs.*

Priority Initiatives

- Assess the impact at the community level of international, national, state, and local policies on agricultural and extension education programs.
- Analyze the most appropriate practices in program/project evaluation.
- Examine appropriate evaluation models to meet the needs of stakeholders.
- Explain how evaluation systems are influenced by culture and society.
- Assess the impact of existing models of agricultural extension education in situations of extreme poverty.

How can agricultural extension education make a difference in an increasingly complex global arena? *With the explosion of new technologies in agriculture worldwide, it is critical that some priority be placed on evaluating the impact of the delivery process mechanisms used in agricultural extension education. Research is needed to determine if agricultural extension education makes a difference.*

Priority Initiatives

- Measure the impact of educational process delivery mechanisms in agricultural extension education.
- Assess the role of evaluation in program management based on accepted cultural and societal practices.
- Describe models of agricultural extension education most appropriate for different situations.
- Identify the role of nonformal agricultural extension education in addressing the needs of audiences from vastly different socio-economic conditions.

How do the principles of teaching and learning in a non-formal educational setting influence sustainable development and enhancement of the global community? *To have sustainable development there needs to be continuous education with an emphasis on teaching and learning and engagement of the learner. Research is needed to determine the impact of teaching and learning on sustainable development.*

Priority Initiatives

- Define sustainable development as it pertains to specific local, regional, national and global situations.
- Identify teaching and learning/engagement approaches that enhance development.
- Develop model learner engagement mechanisms that promote sustainable development.

Agricultural Education in University and Postsecondary Settings

University and postsecondary academic programs in agricultural and life sciences vary tremendously from campus to campus in terms of enrollments, curricula, student development programs, and faculty expertise. As the public at large becomes more removed from and less aware of the constant activity required to support our global food and fiber system, university and postsecondary agriculture programs play a critical role in sustaining and advancing the industry. These programs must attract adequate numbers of capable students and faculty, provide meaningful and relevant learning experiences, and prepare graduate students who are ready and able to make significant contributions. Effective teaching is a key component in any successful academic program, and faculty development programs have the potential to strengthen faculty performance, satisfaction, and retention. At the same time, student success in college, as influenced by teaching and learning experiences, academic advising, leadership opportunities, and overall college and campus environment is equally important to the future strength and vitality of agriculture and natural resources.

RPA 1: Recruit and prepare students for the future workforce in the agricultural and life sciences.

What strategies are effective in recruiting students into colleges of agricultural and life sciences and technical agriculture postsecondary programs? *The future of the industry rests in the hands of the next generations of growers, producers, leaders, researchers, educators, and the many others engaged in the broad field of agriculture and natural resources. Strong enrollments in university and postsecondary agricultural and life sciences programs are critical to industry innovation and sustainability.*

Priority Initiatives

- Identify barriers that inhibit rural students from accessing higher education in agricultural and life sciences.
- Determine factors that most influence nontraditional students' decisions to pursue/not pursue careers in the agricultural sciences.
- Assess the effectiveness of recruitment activities on traditional and non-traditional student populations.

What is the current and future supply and demand for employment in the agricultural and life sciences? *A careful analysis of employment trends and future directions can guide university and postsecondary program development efforts and inform recruitment and retention priorities. Effective employee development programs are an important aspect of overall employee retention and mobility trends.*

Priority Initiatives

- Examine the career mobility of agriculture and life sciences program graduates.
- Analyze supply and demand data to create/modify agricultural education programs at all levels.
- Determine employers' perceptions of current and future needs of prospective employees in the agricultural and life sciences.

RPA 2: Improve the success of students enrolled in agricultural and life sciences academic and technical programs.

What factors are predictive of student success in college? *Success can be defined in terms of academic performance, career readiness, personal growth and development, leadership potential, and others factors. With many of today's entering students presenting exceptionally strong academic credentials, what variables account for the varying degrees of success they experience in college?*

Priority Initiatives

- Develop a model to predict student success in colleges of agricultural and life sciences using demographic and psychological variables.
- Examine student experiences while in high school that are associated with success in college.
- Examine the factors that influence and enhance the success of students transferring from community and technical colleges.
- Develop a profile of college of agriculture and life sciences faculty who are most effective at influencing student success.

What teaching, advising, and mentoring strategies most effectively and efficiently yield desired student outcomes with particular groups of students? *High quality academic advising is believed to be a critical element of a strong academic program. However, changing student needs and readily accessible communication technologies have dramatically altered traditional advisor-student relationships. Academic advising "best practices" must be reexamined in light of rapidly changing campus environments.*

Priority Initiatives

- Analyze the effectiveness of peer teaching and mentoring models to improve student achievement.
- Evaluate the costs and benefits of specific instructional practices on student academic achievement and career success.
- Evaluate the effectiveness of faculty mentoring on student graduation rates.

How do experiential learning applications contribute to student success? *Experience-based learning activities are becoming more commonplace in university and postsecondary agriculture programs. A research-based approach for integrating experiential learning into postsecondary programs has not been developed and widely evaluated.*

Priority Initiatives

- Experiment with new methods of integrating experiential learning into undergraduate programs in agricultural and life sciences.
- Test applications of experiential learning in agricultural and life sciences to shape new theoretical conceptions of experiential learning.
- Assess the influence of international experiences on students' global perspectives.

To what extent is the leadership ability of students enhanced through specially designed experiences, curricula, and student organizations? *Employers continue to cite leadership ability as a highly desirable trait in college graduates. Practically all postsecondary programs in the agricultural and life sciences provide multiple opportunities for students to work in groups and teams outside of class to undertake special projects. Although these experiences constitute a significant resource investment, their optimal design and impact on student leadership development is largely unknown.*

Priority Initiatives

- Develop a reliable method of assessing student leadership development needs.
- Test the effects of various leadership development models on the leadership development and employability of graduates.
- Examine the factors that influence levels of student participation in leadership development programs, including student organizations.
- Use student development and leadership theory to create and evaluate one or more models for effective student leadership development, including a "best practices" guide.

RPA 3: Enhance the effectiveness of agricultural and life sciences faculty.

How do specific faculty development interventions improve the teaching and learning process? *Effective teaching is critically important in agricultural and life sciences programs, yet many faculty members have little or no formal preparation for their role as a teacher. Further, effective teaching performance over the long-term requires ongoing study and reflection in some format. Many colleges of agricultural and life sciences have organized relatively small faculty development centers designed to enhance teaching. These programs vary widely in design, focus, and resource allocation.*

Priority Initiatives

- Analyze the effectiveness of peer review models for improving teaching and student achievement.
- Calculate the return on investment of specific faculty development activities.
- Assess the effectiveness of formal college-sponsored teaching and learning activities on student success.

What interventions contribute to faculty success and retention? *A "sink or swim" approach prevails with regard to the hiring of new faculty in many universities. With explicit teaching, research, and extension assignments, especially in land-grant colleges, defining and achieving success as a faculty member can be a daunting challenge. However, a proactive approach to new faculty orientation and development has the potential to significantly reduce financial, human, and programmatic losses due to ineffective performance and faculty turnover.*

Priority Initiatives

- Analyze the effectiveness of faculty sabbatical programs.
- Determine whether specific faculty development activities lead to greater professional competence, professional satisfaction, and institutional loyalty.
- Evaluate the effectiveness of teaching workshops on faculty self-efficacy and classroom performance.

What factors contribute to faculty motivation to participate in professional development programs? *A high degree of faculty engagement in professional development programs is generally believed to contribute to higher overall performance. However, levels of participation in university, society, and industry-sponsored programs vary widely, on both an individual and institutional basis.*

Priority Initiatives

- Assess the effectiveness of professional development programs on career enhancement of mid-career faculty.
- Conduct case studies to identify strategies for creating a culture of professional development, reflection, and continuous improvement in colleges of agricultural and life sciences.
- Identify factors that motivate faculty to participate in professional development programs.

What is the value of industry-education partnerships and exchanges for enhancing instructor effectiveness? *Some faculty members at postsecondary institutions complete a temporary assignment in industry and governmental agencies, sometimes up to two years in duration. Other, less extensive experiences are also available. These exchanges represent a considerable investment for all parties and a significant opportunity for faculty professional development.*

Priority Initiatives

- Evaluate the professional development outcomes of faculty exchanges, temporary assignments, and other industry and governmental agency experiences on faculty performance.
- Identify the factors that are most influential in faculty decisions to participate in industry and agency professional development programs.
- Determine the industry-agency faculty experience models that are most effective in enhancing faculty performance.

RPA 4: Assess the effectiveness of educational programs in agricultural and life sciences.

What are the effects of educational programs in agricultural and life sciences? *Academic programs in agricultural and life sciences clearly have an impact on individual students, but to what extent do they collectively influence industry sustainability and consumer knowledge?*

Priority Initiatives

- Assess the "value" of undergraduate and graduate programs in agricultural and life sciences to the agricultural and natural resources industries.
- Evaluate the extent to which agricultural and life sciences academic programs enhance broader understanding of the global food and fiber system.
- Analyze the impact of agricultural and life sciences programs on economic, environmental, and human capital development.

How well do program graduates perform in the workplace? *University and postsecondary agriculture programs seek to prepare society-ready graduates. However, the rapidly changing industries, technologies, and communities of today require a near-constant evaluation of programs to ensure that graduates are, in fact, ready to contribute to the industry.*

Priority Initiatives

- Assess the performance of program graduates in their professional employment roles.
- Survey employers to determine the readiness of college of agricultural and life sciences graduates for the workforce.
- Assess employers' perceptions of the ability of program graduates to meet the technical demands of their positions.

Agricultural Education in Schools

School-based agricultural education is a systematic program of instruction available to students desiring to learn about the science, business, and technology of plant and animal production and/or about the environmental and natural resources systems. School-based agricultural education first became a part of the public education system in 1917 when the U.S. Congress passed the Smith-Hughes Act. Today, over 800,000 students participate in formal agricultural education instructional programs offered in grades seven-adult throughout the 50 states and three U. S. territories.

RPA 1: Enhance program delivery models for agricultural education.

What types of program delivery models best respond to the changing population? *Quality school-based agricultural education programs are based upon three core components: instruction, supervised agricultural experience (experiential learning) and FFA. How can this model best serve young people to be productive, contributing members of their communities and the agriculture industry? How can this model or other educational delivery systems best serve students and their communities? Research will help provide insight as to the effectiveness of the agricultural education delivery model and how other models may be included to improve teaching and learning.*

Priority Initiatives

- Assess the effectiveness of the current agricultural education program model.
- Define the key elements of exemplary agricultural education programs and examine how these elements are manifested in programs of distinction.
- Examine innovative models to enhance program delivery in agricultural education.

- Assess the agricultural education leadership infrastructure at the local, state, and national levels.

How do the components of an agricultural education program influence student success and overall program quality? *Agricultural education students are served by an integrated offering of relevant concepts and principles, leadership practices, and experiential learning. Research is needed to better understand the complementary contributions of classroom and laboratory instruction, supervised agricultural experience, and FFA as central components in the learning process.*

Priority Initiatives

- Analyze student enrollment patterns and trends.
- Determine the factors that influence student involvement in agricultural education programs.
- Assess student levels of participation and success in the instructional program, experiential learning provided through supervised agricultural experience programs, and leadership development opportunities provided through FFA.
- Evaluate the effects of the three-component, integrated model on student success.

RPA 2: Provide a rigorous, relevant, standards-based curriculum in agricultural, food, and natural resources systems.

What instructional strategies in agricultural education programs promote increased student achievement in the traditional academic areas? *In recent decades program accountability in education has come to mean assessment of student achievement, typically in the basic academic areas of mathematics, science, written and oral communications, and reading. Clearly, agricultural education will not be immune to this broader trend in the American educational system. Increasingly, agricultural education programs are being held partially accountable for student achievement in the basic academic areas. A fundamental question facing the profession is how agricultural educators can most effectively contribute to improving student achievement in core academic subjects.*

Priority Initiatives

- Establish curriculum standards for agricultural education as an applied academic area.
- Develop curriculum alignment matrices identifying the intersection of agricultural education curriculum standards and standards for traditional academic areas.
- Examine the value of experiential learning in enhancing academic achievement.
- Examine the value of experiential learning on personal and leadership development.
- Determine the effects of a comprehensive agricultural education program on student academic performance and achievement.
- Determine the effects of a comprehensive agricultural education on student technical performance and achievement.
- Develop a model for seamless instruction of agricultural education from awareness through workforce preparation.

How can agricultural education programs most effectively prepare students for career success in a competitive world marketplace? *Even though research will be required to determine the contribution of agricultural education to student achievement in the basic academic areas, school-based agricultural education programs must continue to prepare graduates for entry into and lateral and upward mobility within a competitive world marketplace. The rapid globalization of world markets and today's workforce requires that agricultural education programs and curricula be forward looking and future oriented.*

Priority Initiatives

- Identify workforce needs for global competitiveness in agriculture, food and natural resource systems.
- Determine the skill sets needed by industry for high-demand careers.
- Establish curriculum standards for agricultural education as preparation for high-demand, high-wage careers.
- Analyze existing certification systems and develop new systems for high-demand, high-wage careers.
- Systematically identify and develop instructional systems to meet industry needs.

RPA 3: Increase access to agricultural education instruction and programming.

What models are effective for recruiting and retaining students in agricultural education programs? *The recruitment and retention (re-recruitment) of students is at the heart of successful agricultural education programs. Some programs have been successful in these endeavors, whereas others have struggled to successfully recruit and/or retain quality students. Which existing models of recruitment and/or retention work well? Are there other models that should be employed, given the changing interests of potential students?*

Priority Initiatives

- Develop strategies for recruiting traditional and non-traditional students.
- Develop practices for enhancing student involvement in agricultural education programs.
- Develop strategies for retaining students in agricultural education programs.

What strategies show promise in expanding enrollment in quality agricultural education programs? *Not only is it important to increase the number of students enrolled in agriscience programs, but it is equally important to ensure that these students will be successful academically and professionally.*

Are there characteristics of agriculture programs that assist students in becoming successful? If so, do students recognize these attributes and are they attracted to these programs because of those characteristics? Are these programs recognized by their communities (broadly defined) as essential? The components of successful and high-quality agriculture programs should be identified and marketed in such a way as to make these programs attractive to students, administrators, parents, and the community at large.

Priority Initiatives

- Assess the elements of school-based agriculture programs that lead to academic and career success.
- Identify strategies for improving the perceptions of agriculture programs held by school and community leaders.

What marketing strategies are effective in garnering support for agriculture programs? *Local policy makers and school administrators consider a variety of factors when making program funding decisions. Parents and students may value additional factors when considering whether to participate in school-based agricultural education programs. These decision points must be clarified and companion marketing strategies identified that demonstrate the value of agricultural education programs to all audiences.*

Priority Initiatives

- Identify and evaluate successful strategies for marketing agriculture programs.
- Assess effective models of involving parents, alumni, and school and community leaders in local programs.

RPA 4: Prepare and provide an abundance of fully qualified and highly motivated agriscience educators at all levels.

What models of agriscience teacher preparation are most effective in preparing agricultural educators for middle school, secondary, and postsecondary schools? *Agriscience teacher recruitment and preparation are crucial to high-quality, school-based agricultural education programs. A strong relationship exists between teacher quality and program quality, and university teacher preparation programs must expand enrollments while continuing to graduate highly qualified agriscience teacher candidates. In addition, alternative teacher certification programs must be developed to proactively assist new agriscience teachers who have not completed state-approved teacher certification programs. Are there identifiable practices and processes that equate to the preparation of a successful teacher? If so, can those models be adapted to the broad field of agricultural education?*

Priority Initiatives

- Assess the effectiveness of professional teacher preparation programs and alternative certification models.
- Identify and validate instructional practices for serving diverse student populations.
- Analyze instructional strategies for achieving literacy about agriculture, food, and natural resources systems.
- Develop strategies for partnering with other disciplines to enhance course delivery.
- Develop effective teacher recruitment strategies.

What are the professional development needs of agricultural educators? *Teacher turnover is a concern in all fields of education, including agricultural education. Formal teacher induction programs and well-designed professional development experiences, based upon teacher career stage, may improve teacher retention and program continuity. Practicing teachers must have continuing access to high quality professional development programs, but the type of support needed may vary by locale or teaching situation. Given the high attrition rate for teachers, especially early-career teachers, a strong teacher support system is imperative.*

Priority Initiatives

- Identify and analyze variables that contribute to teacher success.
- Develop and assess effective induction models for early-career teachers.
- Assess the professional and continuing education needs of agricultural educators.
- Assess models for the effective delivery of teacher professional development programs.
- Develop strategies that encourage teacher leadership at the local, state, and national levels.

What models are most effective in preparing university teacher education faculty? *Every state needs a high-quality university agricultural education faculty team. These faculty members recruit, prepare, place, and mentor new agriscience teachers for middle and high school agricultural education programs. However, the supply of new Ph.D. graduates in agricultural education continues to be limited, and more effective graduate student recruitment models are needed. In addition, new faculty members must be well prepared to effectively execute a very diverse set of responsibilities in an increasingly complex university environment.*

Priority Initiatives

- Develop effective recruitment strategies for future teacher educators.
- Assess various professional development models for preparing teacher educators.

- Examine the effectiveness of guided teaching, research, and extension experiences on graduate student success.

RPA 5: Determine the effects of agricultural education instruction.

How does student participation in agricultural education programs contribute to premier leadership, personal growth, and career success? *Supervised agricultural experience (SAE) programs and FFA are primary components of comprehensive agricultural education programs. With changing contexts for effective 21st century agricultural education programs, research is needed to monitor the impact of these key components.*

Priority Initiatives

- Determine the relationship between completion of agricultural education programs and career success.
- Examine the influence of leadership experiences in preparing students for career success in the food, fiber, and natural resource systems.
- Examine the influence of experiential learning on career success.
- Determine the contributions that agricultural education programs make to the food, fiber, and natural resource systems.

How do agricultural education programs contribute to student achievement and performance? *Agricultural education instructional programs focus on food, fiber, and natural resources systems while integrating and applying key concepts in the core academic subjects.*

Priority Initiatives

- Assess the influence of agricultural education programs on student achievement in math, science, reading, and communications.
- Examine the influence of agricultural education programs on success in advanced placement and college preparatory courses.
- Examine the influence of agricultural education programs on levels of remediation needed in college settings.
- Examine the influence of high school agricultural education enrollment on student performance in postsecondary programs.

How do quality agricultural education programs contribute to school and community vitality? *Agricultural education uses authentic learning environments within and outside formal education settings to enable students to learn, develop, and critically apply technical, personal growth, and leadership knowledge and abilities.*

Priority Initiatives

- Examine the contribution of agricultural education programs to schools and communities.
- Determine the influence agricultural education programs have upon developing informed and productive citizens.

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Professional Society and Organizational Partners

American Association for Agricultural Education (AAAE)

The American Association for Agricultural Education is dedicated to studying, applying, and promoting teaching and learning processes in agriculture. AAAE serves as an advocate for teaching improvement, provides a forum to address issues in agricultural education, supports the conduct and dissemination of research, and provides opportunities for professional development and collaboration within and outside agricultural education. (http://aaaeonline.org)

Association for Communication Excellence (ACE)

The Association for Communication Excellence in Agriculture, Natural, Life, and Human Sciences is an international association of communicators and information technologists. ACE develops the professional skills of its members in extending knowledge about agriculture, natural resources and life and human sciences to people worldwide. Members work in universities, government agencies and research organizations in the public sector, as well as companies and firms in the private sector. (http://www.aceweb.org/)

Association for International Agricultural and Extension Education (AIAEE)

The Association for International Agricultural and Extension Education (AIAEE) was established in 1984 to provide a professional association to network agricultural and extension educators who share the common goal of strengthening agricultural and extension education programs and institutions worldwide. (http://www.aiaee.org)

Association of Leadership Educators (ALE)

The Association of Leadership Educators, Inc. was established in 1990 to strengthen the leadership skills and competencies of professional educators who work to strengthen the leadership capabilities of others and to strengthen and broaden the knowledge base which supports research, teaching, and outreach, student services, consulting, and other programs in leadership. (http://www.leadershipeducators.org)

NCAC-24, Experiment Station Committee on Organization and Policy

The North Central Advisory Committee for agricultural education research operates under approval of the North Central Regional Association of Agricultural Experiment Station Directors. NCAC-24 includes agricultural education academic department chairs/heads from across the nation. The committee exchanges information, reviews multi-state research activities, and identifies priorities and strategies for enhancing research in agricultural education. (http://lgu.umd.edu/lgu_v2/)

The National Council for Agricultural Education

The National Council for Agricultural Education strives to stimulate positive growth in agricultural education. Since its formation in 1983, The Council has provided leadership for stakeholders in agriculture, food, fiber and natural resources systems education. The Council serves as a common meeting ground for agricultural education with a membership that includes organizational representatives from student, teacher, teacher educator, state leader, alumni, industry, and government groups. The Council promotes success for students and teachers who participate in formal agricultural education instructional programs offered in grades seven through adult throughout the 50 states and three U.S. territories. (http://www.teamaged.org/councilindex.cfm)

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