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SAREC



MANAGEMENT
HANDBOOK

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I. INTRODUCTION

The College of Agriculture is dedicated to the land-grant philosophy of research-based information as a basis for assisting education, outreach, and economic development in Wyoming. The mission of the College “is to be a proactive leader in education and scholarship in support of healthy, sustainable systems for Wyoming’s agriculture, environment, natural resources, rural communities, and extensions/outreach service”.¹

The Agricultural Experiment Station and its associated Research and Extension (R&E) Centers are integral to the mission of the college. The R&E centers provide the site and means to conduct research that discovers, generates, and synthesizes new knowledge and its application to meet Wyoming’s emerging technological, scientific, and social needs. SAREC’s purpose is to facilitate research and education on sustainable agricultural systems.

The term, “sustainability” evokes varied images that are colored by background, training, and unique interests of individuals. By sustainability, we mean “**agriculture practices that remain viable in perpetuity**”. The first requirement for sustainability must be the maintenance, and preferably enhancement, of resources that serve as a foundation for production. Secondly, the management of renewable resources (e.g. range, forages, crops, and livestock) must result in production that is profitable and socially acceptable.

II. MISSION STATEMENT

SAREC will serve the citizens of Wyoming, the region and nation by facilitating innovative discovery, dissemination, and engagement of integrated agricultural systems that are ecologically sound, economically viable, and socially acceptable.

III. STRATEGIC PLAN

A. Strategic Goals

SAREC will serve the citizens of Wyoming, the region and nation by facilitating:

- 1. Discovery. SAREC will facilitate mission-linked scientific inquiry on agricultural systems that promote sustainable land and resource use.**
- 2. Dissemination. SAREC will disseminate knowledge developed through discovery to enhance the sustainability of agriculture systems for the future.**
- 3. Engagement. SAREC will facilitate dialogue among stakeholders with diverse roles and backgrounds to advance understanding and implementation of sustainable agriculture practices.**

B. Tactical Objectives

The three Strategic Goals for SAREC will be realized through the completion of the following Tactical Objectives.

Strategic Goal 1. Discovery.

SAREC will facilitate mission-linked scientific inquiry on agricultural systems that promote sustainable land and resource use.

A. Conduct applied and exploratory research on principle components of sustainable agriculture systems and ecosystem management.

For this objective, SAREC will:

- 1. Collect “base-line data” required to evaluate changes in SAREC’s natural resource base.*
- 2. Evaluate and document effects of agriculture production systems on condition and integrity of SAREC’s natural resource base.*
- 3. Identify alternative agricultural systems and evaluate their potential to improve productivity, diversification, and sustainability relative to conventional approaches to agriculture.*

B. Cultivate scholarship through learning processes that enhance knowledge, skills, and attitudes to make inferences, deductions, and decisions about sustainable agriculture systems.

For this objective, SAREC will:

- 1. Provide opportunity for quality experiential learning through “hands-on” access to agriculture practices that contribute to the sustainability of agriculture.*
- 2. Synthesize, combine, and interpret results and impacts of long-term ecological monitoring, experimental research, and demonstration studies to better evaluate impacts of innovations in agriculture and their contribution to sustainability.*
- 3. Encourage collaborative educational opportunities with Eastern Wyoming Community College.*

C. Systematically analyze SAREC activities and their impacts to promote synthesis of knowledge.

For this objective SAREC will:

- 1. Conduct meta-data analyses to identify elements, relationships, and underlying principles that govern complex aspects of agricultural systems and resources.*
- 2. Document progress on quantifiable goals for SAREC on a regular basis.*
- 3. Identify and document quantifiable benchmarks for assessing risks to the sustainability of agriculture in the region.*

Strategic Goal 2. Dissemination.

SAREC will disseminate knowledge developed through discovery and dialogue processes that serve to enhance the sustainability of agriculture systems for the future.

A. Provide for learning about agriculture stewardship and resource management through experiential programs that link discovery with dissemination.

For this objective SAREC will:

- 1. Provide experiential learning through on-site short courses, seminars, tours, demonstrations, and field days.*
- 2. Provide access in a variety of venues (electronic, hard copy, literature) to data, outcomes, and meta-data derived from discovery at SAREC including economic, social, and ecological viability and impacts.*

B. Develop a user-friendly, web-based information sharing system for dissemination of research and dialogue. The website should include a virtual tour plus scientific and lay publications based on results obtained at SAREC and elsewhere.

Strategic Goal 3. Engagement.

SAREC will facilitate dialogue among stakeholders with diverse roles and backgrounds to advance understanding and implementation of sustainable agriculture practices.

A. Serve as a site where dialog on resource management and techniques for ecologically sound, economically viable, and socially acceptable methods of operating can occur.

Dialog of this nature may include:

- 1. Outreach efforts to elicit input from a variety of interested parties on resource issues important to Wyoming*
- 2. Mediation of opposing interests in regional agricultural resource management concerns.*
- 3. In conjunction with stakeholders, design and conduct studies and/or evaluate data to identify impacts of controversial agriculture practices.*

IV. PRIORITIES

A. Facilities Priority

The Administrative Advisory Committee shall assess the strategic nature of any new facilities and how they may relate to accomplishing SAREC's mission and goals. Items essential for SAREC to be a productive resource used by scientists include:

- A. A site for short-term housing of faculty and students to conduct studies at SAREC.*

- B. *On-site communications capabilities to allow local groups and individuals to engage others in two-way audio/video conferencing.*
- C. *High-speed internet access to the U.W. server and library system.*
- D. *Baseline data collection and analysis.*
- E. *Weather station, with remote access capabilities, to monitor and record ambient temperature, precipitation and soil moisture.*

B. Project Priority

Priority of projects should be based on the goals of SAREC. Projects shall be reviewed annually and prioritized by the Director of SAREC with the input of the Agricultural Experiment Station Director and Administrative Advisory Committee (see below).

The Committee shall also consider new and developing needs for projects including:

- A. *Basic facilities and systems requirements.*
- B. *Baseline data collection, research treatment and plot location, site monitoring, and equipment guidance.*
- C. *Water delivery systems for plants and animals to individual plots and pastures.*

C. Baseline Systems

Base-line systems shall be established to serve as comparators for system research for the following systems²:

- *Dryland Cropping System* (wheat/fallow),
- *Irrigated Cropping System* (corn/alfalfa),
- *Cow/calf System* (30 cows; dryland native pasture in summer, crop residue in fall, supplemental hay in winter), and
- *Sheep System* (30 western white-faced ewes, base resource similar to cows).

V. STRUCTURE

A. Administrative Advisory Committee

An Administrative Advisory Committee shall be formed to assist with oversight and management of SAREC as outlined below.

1. Committee Structure^{2, 8}

- a. *The seven-member committee will be composed of:*
 - *Four UW faculty members with combined expertise in the areas of Plant Science, Animal Science, Agriculture Economics, and Renewable Resources,*
 - *One member from the UW Cooperative Extension Service, and*
 - *Two producers with integrated farming-livestock experience.*

- b. *Committee terms will be three year staggered terms with two members retiring on December 31 each year.*
- c. *The Chair of the Administrative Advisory Committee shall be selected from the committee membership by vote and will serve for one calendar year.*
- d. *The Directors of the U.W. Agriculture Experiment Station and SAREC serve as ex officio, non-voting members of the committee.*

2. Committee Function^{2, 3, 9, 10}

The Administrative Advisory Committee is established to facilitate independent thought and oversight for SAREC. Specific responsibilities of the committee include:

- a. *Serve in an advisory capacity for the overall functions of SAREC.*
- b. *Provide direction and advice about how to best use limited resources*
- c. *Establish systems and standards.*
- d. *Develop guidelines to assess how proposed research fits with mission of the station.*
- e. *Review proposed research and provide recommendation to researchers to help ensure projects fit into and address the “systems concept.”*
- f. *Evaluate and prioritize research projects based on the mission of SAREC.*
- g. *Assist with public relations on behalf of SAREC by meeting with constituent groups and helping with distribution of information.*
- h. *Small plot or foundation research will not be dealt with by the committee, but inferences to systems will be sought.*
- i. *Develop a “handbook” of bylaws and actions of the committee to ensure continuity of procedures and practices.*
- j. *The Chair, with assistance from AES and SAREC offices, will oversee the timely placement of information on the Website.*
- k. *Monitor the collection of appropriate base-line information so that the vitality of SAREC’s resource base can be evaluated..*
- l. *Provide recommendations on routine agriculture and resource management practices.*
- m. *Encourage presentation of annual reports of research conducted at SAREC:*
- n. *Help relay the impacts of specific research projects to scientific, producer, and lay audiences;*
- o. *Highlight the application and relevance of specific research projects to sustainable agricultural practices.*
- p. *Regularly review and adapt short- and long-term goals for SAREC programs in accordance with the stated mission.*
- q. *Explore and develop methods to enhance sources of funding for SAREC programs.*
- r. *Seek new avenues of funding to enhance SAREC research including funds for; matching grants, scholarships, and internships.*

B. Guidelines for staffing

1. Faculty

Based on the supposition that most new faculty will have responsibilities at, and be located on the Laramie campus, we recommend that employment of a Systems Analyst is critical to SAREC's mission. Duties for this individual should be as follows:

Research Director-Systems Analyst (one position located on site). The research director shall be responsible for oversight and implementation of research at SAREC. This individual should possess modeling expertise necessary to holistically evaluate effects of projects on sustainable agriculture production. The director shall be responsible for collecting and evaluating base-line data required for evaluating ecological impacts of production practices, synthesizing results of specific trials into a holistic model to evaluate their impacts on sustainable agriculture production, and relay results to the scientific community and the public. A portion of this individual's appointment should be in Extension Education.

Director of Operations. This individual shall represent the station to the public, be responsible for routine management of the station, and shall assign station personnel to duties. In addition to fiscal budgeting responsibilities, the Director of Operations shall work with the Research Director to fulfill the mission of SAREC. This may include coordination of off-station research projects.

2. Professional

To facilitate *Discovery, Dissemination, and Engagement*, we propose three Academic Professionals be employed and supervised by the Research Director/Station Supervisor with duties as follows:

Academic Professionals. Three academic professionals with expertise in the areas of Animal Science, Agronomy, Agriculture Economics, or Irrigation Systems should be located at SAREC. These individuals will help coordinate activities associated with SAREC's three strategic goals of Discovery, Dissemination, and Engagement. The primary responsibilities of these individuals shall be to:

- a. Ensure appropriate conduct of research in collaboration with station-based and U.W. based scientists;
- b. Transfer SAREC-derived knowledge to stakeholders; and
- c. Promote communication among stakeholders of agriculture and other special interest groups.

3. Staff

Staff at SAREC shall include an operations manager, an administrative office assistant, 1-2 farm personnel, and an internship program.

Operations Manager. Duties for this individual shall encompass conducting routine experimental chores, maintenance of facilities, and directing daily activities of farm personnel.

Intern positions. One to two existing agricultural assistant positions shall be established as possible to support internships for students seeking agricultural experiences. Specific duties for these interns shall be dictated by seasonal station needs including: ongoing research, baseline data collection, outreach activities, dialogue projects, and student interests.

4. Funding for Support Staff

To maintain base level support, the above positions should be funded by monies appropriated to the U.W. Agricultural Experiment Station. However, funded projects should budget monies to purchase release time for the research associates and staff. These funds should be available to SAREC for alternate needs or hiring additional staff.

5. Administrative Structure

The flow diagram in Figure 1. illustrates the recommended administrative structure for SAREC. The Dean of the College of Agriculture is the University official ultimately responsible for SAREC. The

Administrative Advisory Committee shall serve in an advisory capacity for SAREC (as outlined in this document) and shall serve as a conduit for project proposals from faculty to the Research Director. The Research Director and Director of Operations shall supervise all short and long range activities at SAREC

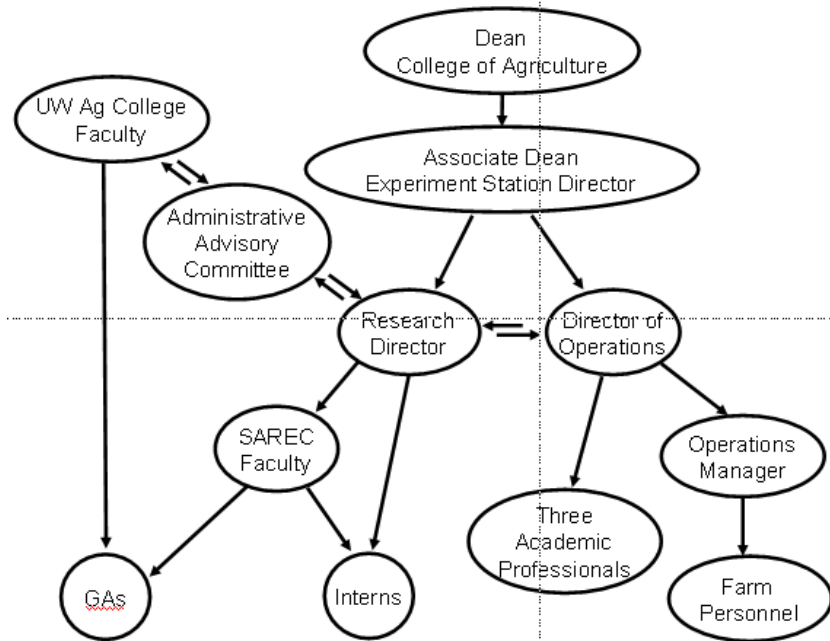


Figure 1. SAREC Administration

with appropriate assistance from station personnel.

C. External Administrative Advisory Committees and Boards

An Administrative Advisory Committee shall be formed as outlined above. In addition, a Citizen’s Advisory Board shall be formed and maintained to seek stakeholder input and communicate the accomplishments and needs of SAREC to the public.

VI. PROCESS

A. Incentives for faculty to use SAREC

- A. Provide facilities that complement those provided on campus.*
- B. Provide a site for short-term housing of students and faculty while conducting research trials at SAREC.*
- C. Allot a proportion of AES Competitive Grant funds to research and education projects specifically targeted to be conducted at SAREC.*
- D. Provide the opportunity and funding for student interns to work on research and education projects.*
- E. Establish a scholarship program for experiential learning projects at SAREC.*
- F. Establish a mechanism for matching externally derived funds for necessary infrastructure needs for research projects.*
- G. Incorporate faculty responsibilities at SAREC into written job descriptions and reward such activities appropriately.*

B. Procedures for Project Consideration

The Administrative Advisory Committee shall annually review all projects and rank project proposals based on their applicability to the center's three strategic goals and associated tactical objectives. Preference shall be given to projects as outlined below under External Funding. The process by which a proposal will be considered shall generally proceed as follows:

- A. Written proposals for projects shall be submitted for Administrative Advisory Committee consideration throughout the calendar year.*
- B. The Agricultural Experiment Station Director shall distribute green-sheeted projects that have potential to be conducted at SAREC to the Administrative Advisory Committee.*
- C. Approved projects shall be submitted to the funding agency with SAREC support indicated.*
- D. Funded projects shall be presented to the Administrative Advisory Committee by the project Principal Investigator (PI) at the annual SAREC conference each spring.*
- E. The Administrative Advisory Committee shall score each project, provide feedback regarding merits of the proposal. ,*
- F. Priority shall be given to projects that fulfill the mission and three strategic goals of SAREC.*

C. External funding

Consultation with the Administrative Advisory Committee, Agriculture Experiment Station Director, and Director of SAREC from the inception to submission of grant proposals is strongly encouraged for any project proposed which would require significant resources. The Administrative Advisory Committee shall review, evaluate, and provide recommendation on projects to be conducted at SAREC.

Priority shall be given to projects that:

- A. *Budget funds to support SAREC personnel.*
- B. *Provide funding to improve infrastructure at SAREC.*
- C. *Provide stipends for students to work on research and education projects located at SAREC.*

VII. ADMINISTRATIVE ADVISORY COMMITTEE ACTIONS AND RECOMMENDATIONS

A. Actions

- A. *An informative website will be developed and routinely updated².*
- B. *Research at SAREC should focus on the sustainable aspects of agriculture².*
- C. *Appropriate computer software will be purchased and used to facilitate data collection and sharing at SAREC².*
- D. *Base-line systems for dryland (wheat/fallow), cow herd (30 cows; dryland native pasture in summer, crop residue in fall, supplemental hay in winter), and sheep (30 western white-faced ewes, base resource similar to cows) will be established to serve as comparators for system research^{4, 5, 7}.*
- E. *Minimum data collected for livestock base systems will be as per the IRM Red Book and will include rangeland monitoring data⁶.*
- F. *A calendar for baseline data collection will be formed and assistance solicited to ensure collection of required information⁸.*
- G. *A “SAREC Research Project Proposal Outline” was approved for placement on the SAREC website¹⁰.*

B. Recommendations

- A. *Producer organizations will be asked to provide a letter of appreciation to backers of the Agric. Initiative that funded SAREC.*
- B. *Present cow herd be kept, but culled harshly and bred to obtain moderate sized offspring of uniform type⁵.*
- C. *SAREC will work with the Game and Fish to develop habitat and will monitor positive and negative aspects on systems agriculture⁸.*
- D. *Funds will be solicited to fund interns that will be assigned to specific goals of the strategic plan including maintaining the website⁹.*

¹ From College of Agriculture Academic Plan, 2004-2009.

² From: AAC minutes 9-13-05

³ From: AAC minutes 10-20-05

⁴ From: AAC minutes 12-22-05

⁵ From: AAC minutes 2-7-06

⁶ From: AAC minutes 3-30-06

⁷ From: AAC minutes 5-4-06

⁸ From: AAC minutes 6-30-06

⁹ From: AAC minutes 8-25-06

¹⁰ From: AAC minutes 10-26-06