



## National Sustainable Agriculture Coalition

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Delivered via Email to [Roadmap@osec.usda.gov](mailto:Roadmap@osec.usda.gov) and hard copies to Room 3858-S

**RE: REE-2009-0001 - ROADMAP FOR USDA RESEARCH, EDUCATION, AND EXTENSION**

Dear REEO Directors:

The National Sustainable Agriculture Coalition (NSAC) is grateful for the opportunity to submit comments on the Research, Education, and Economics Office's (REEO) Roadmap for Agriculture Research, Education, and Extension.

NSAC is a national alliance of farm, rural, and conservation groups that organized in 1988 to reform federal farm policy, including agricultural research policies and programs. NSAC member groups advance common positions to support small and mid-sized family farms, protect natural resources, promote healthy rural communities, and provide nutritious and healthy food to consumers. NSAC directly represents over 40 member organizations<sup>1</sup> and has additional participating organizations, including many college and university sustainable agriculture centers and programs. Some NSAC member and participating groups have also submitted comments to you directly.

Thank you again for meeting with our group of farmers, researchers, and policy staff back in March and thank you for consideration of our recommendations for the roadmap at that meeting and in these written comments. We look forward to further conversation in the coming months.

Sincerely,

Ferd Hoefner, Policy Director  
Ariane Lotti, Research Policy Associate

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<sup>1</sup> Agriculture and Land-Based Training Association (ALBA) - *Salinas, CA*; Alternative Energy Resources Organization (AERO) - *Helena, MT*; California Certified Organic Farmers (CCOF) - *Santa Cruz, CA*; California FarmLink - *Sebastopol, CA*; CASA del Llano (Communities Assuring a Sustainable Agriculture) - *Hereford, TX*; Center for Rural Affairs - *Lions, NE*; Clagett Farm/Chesapeake Bay Foundation - *Upper Marlboro, MD*; Community Alliance with Family Farmers - *Davis, CA*; Dakota Rural Action - *Brookings, SD*; Delta Land and Community, Inc. - *Almyra, AR*; Ecological Farming Association - *Watsonville, CA*; Flats Mentor Farm - *Lancaster, MA*; Florida Organic Growers - *Gainesville, FL*; Georgia Organics - *Atlanta, GA*; Food Animal Concerns Trust (FACT) - *Chicago, IL*; Grassworks - *Wausau, WI*; Illinois Stewardship Alliance - *Rochester, IL*; Iowa Natural Heritage Foundation - *Des Moines, IA*; Island Grown Initiative - *Vineyard Haven, MA*; Izaak Walton League - *St. Paul, MN*/*Gaithersburg, MD*; Just Food - *New York, NY*; Kansas Rural Center - *Whiting, KS*; Kerr Center for Sustainable Agriculture - *Poteau, OK*; Land Stewardship Project - *White Bear Lake, MN*; Land for Good - *Belchertown, MA*; Michael Fields Agricultural Institute - *East Troy, WI*; Michigan Integrated Food and Farming Systems - *East Lansing, MI*; Michigan Organic Food and Farm Alliance - *Lansing, MI*; Midwest Organic & Sustainable Education Service - *Spring Valley, WI*; National Catholic Rural Life Conference - *Des Moines, IA*; National Center for Appropriate Technology - *Butte, MT*/*Fayetteville, AR*; *Davis, CA*; New Mexico Acequia Association - *Santa Fe, NM*; Northeast Organic Dairy Producers Alliance (NODPA) - *Deerfield, MA*; Northern Plains Sustainable Agriculture Society - *Fullerton, ND*; Ohio Ecological Food & Farm Association - *Columbus, OH*; Organic Farming Research Foundation - *Santa Cruz, CA*; Rural Advancement Foundation International, USA - *Pittsboro, NC*; Sierra Club Agriculture Committee - *Nationwide*; Union of Concerned Scientists (Food and Environment Program) - *Cambridge, MA*/*Washington, D.C.*; Virginia Association for Biological Farming - *Lexington, VA*; Washington Sustainable Food and Farming Network - *Mount Vernon, WA*; Wild Farm Alliance - *Watsonville, CA*

## INTRODUCTORY COMMENTS

NSAC's vision for agricultural research, education, and extension prioritizes examining and advancing the sustainability of agricultural systems to achieve the greatest public good from federal funds. NSAC has worked for over two decades to develop, secure funding for, and promote the implementation of REE programs that enhance food production, increase farming opportunities, protect natural resources and the environment, and foster the vitality of rural communities.

NSAC was instrumental in the 1990 farm bill research title debate around sustainability that led among other things to a codification of the definition of the term sustainable agriculture<sup>2</sup> and the purposes of sustainable agriculture research<sup>3</sup>, a statutory requirement that all special and competitive grants emphasize sustainability<sup>4</sup>, and a statement of the overarching purposes of agricultural REE funding, language subsequently revised<sup>5</sup>. Despite these and other NSAC's efforts over the years,

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<sup>2</sup> The term "sustainable agriculture" means an integrated system of plant and animal production practices having a site-specific application that will, over the long-term—

- (A) satisfy human food and fiber needs;
- (B) enhance environmental quality and the natural resource base upon which the agriculture economy depends;
- (C) make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls;
- (D) sustain the economic viability of farm operations; and
- (E) enhance the quality of life for farmers and society as a whole.

<sup>3</sup> PURPOSE.—It is the purpose of this subtitle to encourage research designed to increase our knowledge concerning agricultural production systems that—

- (1) maintain and enhance the quality and productivity of the soil;
- (2) conserve soil, water, energy, natural resources, and fish and wildlife habitat;
- (3) maintain and enhance the quality of surface and ground water;
- (4) protect the health and safety of persons involved in the food and farm system;
- (5) promote the well being of animals; and
- (6) increase employment opportunities in agriculture.

<sup>4</sup> (k) EMPHASIS ON SUSTAINABLE AGRICULTURE.—The Secretary of Agriculture shall ensure that grants made under subsections (b) and (c) are, where appropriate, consistent with the development of systems of sustainable agriculture. For purposes of this section, the term "sustainable agriculture" has the meaning given that term in section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103).

<sup>5</sup> The purposes of federally supported agricultural research, extension, and education are to—

- (1) enhance the competitiveness of the United States agriculture and food industry in an increasingly competitive world environment;
- (2) increase the long-term productivity of the United States agriculture and food industry while maintaining and enhancing the natural resource base on which rural America and the United States agricultural economy depend;
- (3) develop new uses and new products for agricultural commodities, such as alternative fuels, and develop new crops;
- (4) support agricultural research and extension to promote economic opportunity in rural communities and to meet the increasing demand for information and technology transfer throughout the United States agriculture industry;
- (5) improve risk management in the United States agriculture industry;
- (6) improve the safe production and processing of, and adding of value to, United States food and fiber resources using methods that maintain the balance between yield and environmental soundness;
- (7) support higher education in agriculture to give the next generation of Americans the knowledge, technology, and applications necessary to enhance the competitiveness of United States agriculture; and
- (8) maintain an adequate, nutritious, and safe supply of food to meet human nutritional needs and requirements.

only a very small percentage of REE funds at USDA are dedicated to simultaneously advancing all of the components of agricultural sustainability.

USDA has historically focused too much of its research investment yield and production maximization efforts that failed to achieve the multiple purposes of research at USDA and has facilitated the decreased economic opportunity in farming, degradation of natural resources, and divestment from rural communities. Now, however, USDA can decisively shift away from a yield-focused toward sustainable systems-focused research and the roadmap can play an important role in encapsulating and promoting that shift.

In the past few months, prospects for the federally-funded research and scientific communities have indeed changed. President Obama has clearly indicated his support for research and science. Funds for scientific research have increased with the passage of the American Recovery and Reinvestment Act of 2009 (the stimulus) and in the President's FY 10 budget proposal to Congress. Sadly, though, funds for agricultural research, education, and extension were not included in the stimulus bill and agricultural research received stagnant funding in the President's budget proposal, continuing a long-term pattern. Agricultural research's perceived lack of relevance in the political realm to current and future public interest challenges can be no more apparent than its exclusion from the President's research discussion and priorities.

We will answer the questions listed in the Federal Register notice and provides suggestions for how USDA can develop and implement a research agenda that elevates the Department's capacity to address 21st-century challenges. First, however, we want to specifically address the budgetary crisis that has left USDA funding stagnating while other federal agencies and institutes receive major increases, and make a series of basic recommendations for the roadmap.

### **BASIC RECOMMENDATIONS FOR FUTURE FUNDING, TRANSPARENCY, AND EVALUATION**

The roadmap's legislative authorization directs that it will describe "*recommended funding levels for areas of agricultural research, education, and extension, including— (A) competitive programs; (B) capacity and infrastructure programs...and (C) intramural programs at agencies within the research, education, and economics mission area.*" Clearly, then, future funding directions are to be a key part of the roadmap.

While new Administrations typically get a partial pass on the first budget request they put forward in the midst of the transition, the next year's budget (in this case FY 11) is in essence the new Administration's funding roadmap. If history is any guide, after that first full budget, with whatever major funding redirections it suggests, the remaining years of an Administration generally include small variations on the basic themes set out in that first year's budget that is completely under the new Administration's control.

If the internal administrative budget process works something like normal this year, then USDA will be forwarding its FY 11 budget requests, including REE, to OMB by late summer. Hence, in our view, the most urgent task for REE and for the REEO staff is to use the roadmap to chart out the future funding roadmap for REE to be submitted to the Secretary and ultimately to the White House for consideration, starting with the FY 11 funding request. To be timely for this most

important task, speed is of the essence. This may necessitate moving the timeline for the roadmap, or at least for the future funding direction portion of the roadmap, forward by a month or more.

In our view, the payoff for speeding up the roadmap in this fashion could be enormous, and the downside of delaying until mid-September (assuming the budget process timeline does not also slow down considerably) could be catastrophic. We say this because in our view there needs to be a very major increase in overall USDA REE funding beginning in FY 11 as well as some major redirections of existing funding streams. The case for those increases and redirections needs to be made loudly, clearly and forcefully, and the roadmap is the appropriate document to lay out the agenda for change.

In broad strokes, we suggest a roadmap funding section that calls for a 5-year phased-in commitment to at least a doubling of competitive funding (with some competitive programs increasing more than that and some less), at least a 50 percent increase in intramural research, and a smaller but still significant increase in capacity and infrastructure programs.

Within the agricultural arena, research, education and extension funding (competitive, capacity, and intramural) for sustainable and organic production systems (and related food, marketing, and economics) should be accelerated multiple times faster than other agricultural REE initiatives given their status as historically underserved sectors and the continuing very significant lag in investment relative to the industrial and conventional sector. The NSAC proposal for a three-year ramp up of the Sustainable Agriculture Research and Education competitive grant program is attached at the end of these roadmap comments as an example of the kind of future funding increases and redirections that are needed across the board for sustainable and organic systems in competitive, capacity, intramural, extension, and economic programs.

At the same time as proposing major new investments and redirections, the roadmap should recommend that all or most programs should adopt robust outcome-based evaluation processes, and that programs that make the most positive and consistent contributions to comprehensive sustainability should receive the bulk of the proposed funding increases.

With respect to competitive and special grants, the roadmap should call heightened attention to the statutory requirement that all such grants where applicable are consistent with the development of systems of sustainable agriculture.<sup>6</sup> We further suggest that sustainability as an organizing principle for competitive and special grants should be expanded beyond agriculture to also include the food system as a whole and to community and economic development.

We also recommend the roadmap make note of the new Office of Advocacy and Outreach established by the 2008 Farm Bill<sup>7</sup>, noting REE's responsibilities to the small farm, beginning and

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<sup>6</sup> (k) EMPHASIS ON SUSTAINABLE AGRICULTURE.—The Secretary of Agriculture shall ensure that grants made under subsections (b) and (c) are, where appropriate, consistent with the development of systems of sustainable agriculture. For purposes of this section, the term “sustainable agriculture” has the meaning given that term in section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103).

<sup>7</sup> (bold emphases added)

**“SEC. 226B. OFFICE OF ADVOCACY AND OUTREACH.**

“(a) DEFINITIONS.—In this section:

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- “(1) BEGINNING FARMER OR RANCHER.—The term ‘beginning farmer or rancher’ has the meaning given the term in section 343(a) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1991(a)).
- “(2) OFFICE.—The term ‘Office’ means the Office of Advocacy and Outreach established under this section.
- “(3) SOCIALLY DISADVANTAGED FARMER OR RANCHER.—The term ‘socially disadvantaged farmer or rancher’ has the meaning given the term in section 2501(e) of the Food, Agriculture, Conservation, and Trade Act of 1990 (7 U.S.C. 2279(e)).

“(b) ESTABLISHMENT AND PURPOSE.—

- “(1) IN GENERAL.—The Secretary shall establish within the executive operations of the Department an office to be known as the ‘Office of Advocacy and Outreach’—
- “(A) to improve access to programs of the Department; and
- “(B) to improve the viability and profitability of—
- “(i) small farms and ranches;
- “(ii) beginning farmers or ranchers; and
- “(iii) socially disadvantaged farmers or ranchers.
- “(2) DIRECTOR.—The Office shall be headed by a Director, to be appointed by the Secretary from among the competitive service.

“(c) DUTIES.—The duties of the Office shall be to ensure small farms and ranches, beginning farmers or ranchers, and socially disadvantaged farmers or ranchers access to, and equitable participation in, programs and services of the Department by—

- “(1) **establishing and monitoring the goals and objectives of the Department to increase participation in programs of the Department by small, beginning, or socially disadvantaged farmers or ranchers;**
- “(2) assessing the effectiveness of Department outreach programs;
- “(3) **developing and implementing a plan to coordinate outreach activities and services provided by the Department;**
- “(4) providing input to the agencies and offices on programmatic and policy decisions;
- “(5) **measuring outcomes of the programs and activities of the Department on small farms and ranches, beginning farmers or ranchers, and socially disadvantaged farmers or ranchers programs;**
- “(6) recommending new initiatives and programs to the Secretary; and
- “(7) carrying out any other related duties that the Secretary determines to be appropriate.

“(d) SOCIALLY DISADVANTAGED FARMERS GROUP.—

- “(1) ESTABLISHMENT.—The Secretary shall establish within the Office the Socially Disadvantaged Farmers Group.
- “(2) OUTREACH AND ASSISTANCE.—The Socially Disadvantaged Farmers Group—
- “(A) **shall carry out section 2501 of the Food, Agriculture, Conservation, and Trade Act of 1990 (7 U.S.C. 2279);** and
- “(B) in the case of activities described in section 2501(a) of that Act, may conduct such activities through other agencies and offices of the Department.
- “(3) SOCIALLY DISADVANTAGED FARMERS AND FARMWORKERS.— The Socially Disadvantaged Farmers Group shall oversee the operations of—
- “(A) the Advisory Committee on Minority Farmers established under section 14009 of the Food, Conservation, and Energy Act of 2008; and
- “(B) the position of Farmworker Coordinator established under subsection (f).
- “(4) OTHER DUTIES.—
- “(A) IN GENERAL.—The Socially Disadvantaged Farmers Group may carry out other duties to improve access to, and participation in, programs of the Department by socially disadvantaged farmers or ranchers, as determined by the Secretary.
- “(B) OFFICE OF OUTREACH AND DIVERSITY.—The Office of Advocacy and Outreach shall carry out the functions and duties of the Office of Outreach and Diversity carried out by the Assistant Secretary for Civil Rights as such functions and duties existed immediately before the date of the enactment of this section.

“(e) SMALL FARMS AND BEGINNING FARMERS AND RANCHERS GROUP.—

socially disadvantaged farmer and rancher, and farmworker policy, coordination, research, and oversight functions of the Office both specifically with respect to the Beginning Farmer and Rancher Development competitive grants program and Outreach and Assistance to Socially Disadvantaged Farmers and Ranchers competitive grants program and more generally to the overall advocacy and outreach functions and mission.

We also recommend that the roadmap advocate heightened REE commitment to substantive contributions to interagency bodies, including the Small Farm and Beginning Farmer and Rancher Council, the Sustainable Development Council, the Organic Working Group, and the forthcoming “know your farmer, know your food” initiative and interagency coordinating body.

REEO should also lay out in the roadmap a strategy for heightened transparency about the areas in which REE investments are being made, with a commitment to a far greater degree of honest public

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“(1) ESTABLISHMENT.—The Secretary shall establish within the Office the Small Farms and Beginning Farmers and Ranchers Group.

“(2) DUTIES.—

“(A) OVERSEE OFFICES.—The Small Farms and Beginning Farmers and Ranchers Group shall oversee the operations of the Office of Small Farms Coordination established by Departmental Regulation 9700-1 (August 3, 2006).

“(B) BEGINNING FARMER AND RANCHER DEVELOPMENT PROGRAM.—**The Small Farms and Beginning Farmers and Ranchers Group shall consult with the National Institute for Food and Agriculture on the administration of the beginning farmer and rancher development program established under section 7405 of the Farm Security and Rural Investment Act of 2002 (7 U.S.C. 3319f).**

“(C) ADVISORY COMMITTEE FOR BEGINNING FARMERS AND RANCHERS.—The Small Farms and Beginning Farmers and Ranchers Group shall coordinate the activities of the Group with the Advisory Committee for Beginning Farmers and Ranchers established under section 5(b) of the Agricultural Credit Improvement Act of 1992 (7 U.S.C. 1621 note; Public Law 102-554).

“(D) OTHER DUTIES.—The Small Farms and Beginning Farmers and Ranchers Group may carry out other duties to improve access to, and participation in, programs of the Department by small farms and ranches and beginning farmers or ranchers, as determined by the Secretary.

“(f) FARMWORKER COORDINATOR.—

“(1) ESTABLISHMENT.—The Secretary shall establish within the Office the position of Farmworker Coordinator (referred to in this subsection as the ‘Coordinator’).

“(2) DUTIES.—The Secretary shall delegate to the Coordinator responsibility for the following:

“(A) Assisting in administering the program established by section 2281 of the Food, Agriculture, Conservation, and Trade Act of 1990 (42 U.S.C. 5177a).

“(B) Serving as a liaison to community-based nonprofit organizations that represent and have demonstrated experience serving low-income migrant and seasonal farmworkers.

“(C) Coordinating with the Department, other Federal agencies, and State and local governments to ensure that farmworker needs are assessed and met during declared disasters and other emergencies.

“(D) Consulting within the Office and with other entities to better integrate farmworker perspectives, concerns, and interests into the ongoing programs of the Department

“(E) **Consulting with appropriate institutions on research, program improvements, or agricultural education opportunities that assist low-income and migrant seasonal farmworkers.**

“(F) Assisting farmworkers in becoming agricultural producers or landowners.

“(3) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this subsection for each of fiscal years 2009 through 2012.”.

reporting than has historically been the case. No longer should it be the case that basic reviews of funding priorities and trends should occur only sporadically as researchers outside of government happen to decide to attempt comprehensive reviews. Roadmaps to change are not possible when funding priorities are not clearly tracked and articulated. REEO can make a lasting contribution by instituting an iterative transparency process and set of reports. The transparency and public information process should be linked over time to a renewed commitment to participatory, cross-disciplinary, and multi-stakeholder research planning and direction-setting processes.

We also strongly recommend that the roadmap include a proposal to reconstitute administratively an Agriculture Science and Technology Review Board within USDA REE. The Board should be separate and distinct from NAREEAB, under the auspices of REEO, and modeled closely on the ASTRB authorized by the 1990 Farm Bill<sup>8</sup>. The critically important functions of ASTRB have never

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#### 8 SEC. 1408A. **AGRICULTURAL SCIENCE AND TECHNOLOGY REVIEW BOARD.**

`(a) ESTABLISHMENT- The Secretary, acting through the Joint Council, shall establish and oversee an Agricultural Science Technology Review Board.

`(b) MEMBERSHIP-

`(1) COMPOSITION- The Technology Board shall be composed of 11 individuals, to be appointed by the Secretary, who have expertise in technology assessment, environmental sciences, international agricultural issues, the social sciences, agricultural sciences (both basic and applied), technology transfer, and education, including representatives of--

`(A) the Agricultural Research Service;

`(B) the Cooperative State Research Service;

`(C) the Extension Service;

`(D) private foundations and nonprofit organizations who have expertise in agricultural research, education, and technology transfer;

`(E) private agricultural research and technology transfer firms; and

`(F) the Land Grant University System.

`(2) MANNER OF APPOINTMENT- The Secretary shall appoint members of the Technology Board in a manner determined to be appropriate by the Secretary.

`(3) PRIVATE SECTOR REPRESENTATION. A majority of the members of the Technology Board appointed under paragraph (1) shall be from the private sector.

`(4) TERM- Members of the Technology Board shall serve for staggered terms of 3 years, as determined appropriate by the Secretary.

`(5) CHAIRPERSON- The Technology Board shall select a chairperson from its membership, who shall serve in that position for a term of 1 year.

`(c) TECHNICAL INTERPRETATION AND ASSESSMENTS-

`(1) IN GENERAL- The Technology Board shall--

`(A) provide technical interpretation and translation of current and emerging agricultural and environmental science issues for use by the Joint Council and the Advisory Board in setting priorities and conducting evaluations; and

`(B) provide technology assessment of current and emerging public and private agricultural research and technology transfer initiatives, including emerging technologies from private industry and public institutions that would influence agriculture, environment, nutrition, and the broad social, economic, and health consequences on urban and rural communities.

`(2) ASSESSMENTS- The Technology Board may conduct assessments to consider to what extent agricultural research and extension programs foster--

`(A) the development of farming systems that most effectively take advantage of natural processes and beneficial biological interactions and other sustainable agriculture techniques;

been satisfactorily replaced or compensated for since the Board was dissolved and theoretically absorbed into NAREEAB. This single action could be one of the most positive and far-reaching steps that REEO and the roadmap could take. Comparative technology assessment is vital to assessing the effectiveness of REE investments and to aligning future research directions in the service of sustainability and the public good.

Last but not least, we encourage you to incorporate into the roadmap the recommendations of the 2004 Science for Sustainability Experts Workshop.<sup>9</sup> While the eight recommendations were specific to CSREES we believe they are applicable to all REE agencies:

1. Reorient the CSREES mission around sustainability.
2. Lead the transition for a new science for sustainability.
3. Foster partnerships with other agencies, organizations and institutions to further the new science and its application.
4. Provide opportunities for self-education and increased coordination within CSREES for systems thinking.

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`(B) genetics research that results in crop varieties and livestock that enhance management options, farm productivity, use of inputs, and a diversity of products that can be marketed by the farm operator;

`(C) research to develop farming systems appropriate to climatological uncertainty;

`(D) research to increase the demand for current farm products, and to develop new farm crops and enterprises, that are economically and environmentally advantageous and enhance agricultural diversity;

`(E) research to enhance economic and societal well-being;

`(F) research that develops rural economic development strategies that build on the entrepreneurial skills, self-employment tradition, and the resource base of rural communities and extension programs to disseminate those strategies;

`(G) innovative extension and education programs that transfer new technology to the rural community including small- and moderate-sized family farmers and potential beginning and minority farmers with limited resources; and

`(H) extension programs that substantially involve a broad range of interested individuals, commodity groups, agri-industry groups, farm groups, rural organizations, community groups, farmerworkers, and environmental organizations to broaden input into research and extension priority setting.

`(d) TECHNOLOGY ASSESSMENT REPORT-

`(1) IN GENERAL- Not later than December 31 of each year, the Technology Board shall prepare a report that contains a technology assessment of emerging public and private agricultural research initiatives and activities, including--

`(A) recommendations on how such research would be best directed to advance the purposes set forth in section 1402; and

`(B) an assessment of activities conducted by the Secretary, research components of public and private colleges and universities, and emerging private agricultural research initiatives.

`(2) RECIPIENTS- The Technology Board shall submit the report required under paragraph (1) to the appropriate Committees of Congress, to the Secretary, to the heads of other Federal agencies who support agricultural research, and (on request) to private organizations who have a significant involvement in agricultural research.

`(3) MINORITY VIEWS- The Technology Board shall include minority views in the report, if timely submitted.!

<sup>9</sup> Convened and reported by the Science for Sustainability (S4S) workgroup of the Cooperative State Research, Education, and Extension Service of USDA (Diana Jerkins, Jill Auburn, and Greg Crosby, co-chairs; Alexandra Raver, Coordinator), in collaboration with Kate Clancy, Wallace Center of Winrock International, with support from a CSREES internal innovation grant. Report finalized November 18, 2004.



5. Convene a “sustainability review team” appointed by the CSREES Administrator that evaluates National Research Initiative processes, principles, and performance measures, and recommends improvements, including checklists for reviewers.
6. Coordinate and guide the regional centers’ integration of expertise to address sustainability problems of regional importance<sup>10</sup>.
7. Issue of Request for Applications for a new, integrated systems program.
8. Create a National Sustainability Caucus for national dialogue and stakeholder consultation.

## THE SIX FEDERAL REGISTER NOTICE QUESTIONS

### ***1. What types of current and future critical issues (including those affecting citizens, communities, and natural resources) does agriculture face that no USDA entity could address individually?***

Agriculture faces multiple current and future critical issues that have significant implications for individuals, communities, and the environment. Below, we simply list an illustrative set of these issues under four broad categories but stress that issues are inter-related and complex, and span across and beyond USDA agencies.

#### ***Environmental Crisis***

- Climate change and agriculture-based greenhouse gas emissions
- Depletion of and overreliance on non-renewable energy resources
- Soil erosion and degradation of soil quality and fertility
- Pollution of waterways
- Water scarcity
- Loss of genetic diversity and decline in on-farm genetic resource conservation
- Loss of biodiversity and habitat
- Invasive species
- Decline in pollinators
- Loss of prime farmland

#### ***Farm Crisis***

- Decline in open markets and increased monopoly market power
- Disappearance of local and regional food enterprises and infrastructure
- Concentration of farmland ownership and divorce of ownership from operating
- Continued decline in full-time, moderate-scale farming opportunities
- Steady aging of American agriculture
- High barriers to entry for new, young, and beginning farmers
- Continued public and private sector discrimination against minority farmers
- Lack of crop and enterprise diversity at the farm and landscape level
- Separation of livestock from a farming base coupled with increased nutrient pollution and less economic resiliency

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<sup>10</sup> Regional centers referred to Sustainable Agriculture Research and Education (SARE), Regional Centers for Rural Development, Risk Management Education Regional Centers, IPM Centers, etc.

### ***Rural Crisis***

- Rural population loss in large swath of the country
- Lack of economic opportunity and disproportionately high poverty
- Lack of human services infrastructure, including health care
- Lack of physical infrastructure
- Occupational health and safety and economic condition of hired farm laborers

### ***Food and Health Crisis***

- High levels of food insecurity
- Rural and urban food deserts
- Food safety and food-borne diseases
- Lack of breeding for nutritional quality
- Increasing prevalence of diet-related diseases
- Antibiotic resistance related to industrial livestock production methods
- Lack of healthy food and preponderance of cheap, unhealthy food
- Underproduction of domestic fresh fruits and vegetables and whole grains

## ***2. What criteria should USDA use to prioritize agriculture science (i.e., research, education, and extension) investments into these issues?***

Many of the critical issues facing agriculture listed above are the result of, or are influenced directly by, the reductionist, production-focused view of agriculture enabled and strengthened by USDA and its programs. At this critical juncture, the preponderance of REE investments need to be directed to the examination of agricultural systems that not only increase productivity but also maintain and improve the natural resource base and environmental indicators, provide genuine and increasing economic opportunities for farmers and rural communities, and provide widespread access to healthy food for people. USDA should prioritize science investments that meet the below criteria.

### ***Pre-Research***

- **Address an unmet research need:** Only projects that address research needs unmet by private industry should be eligible for public funds. Focusing on unmet research needs will help avoid overlap and duplication and help keep public science focused on the public interest. If a research project is jointly funded by public and private funds, then there should be no control over how the research results are used by the public entity.
- **Serve groups of people not served by other research efforts:** Projects should focus on the farmers and rural communities, with particular attention to unmet needs and underserved interests. The distributional impacts of research investments should be weighed heavily, with research that reduces economic equity and opportunity being screened out.
- **Use rigorous technology assessment to examine emerging technologies for their relative social, economic, and environmental impacts and costs before they are developed and deployed.** Focus limited public resources on research that is consistent with sustainability and equity goals.

## ***Research Design***

Wherever applicable, research should be:

- focused on economic, social, and environmental sustainability
- systems-oriented
- inter-disciplinary, including socio-economic contributions in all phases of design and implementation
- agro-ecologically based
- based on full cost accounting and life cycle analysis, and
- participatory, including farmers and other partners who use the products of research.

Research should be ranked based on its likely degree of positive outcomes and absence of potential negative outcomes for the full range of sustainability factors included in statute -- satisfy human food and fiber needs; enhance environmental quality and the natural resource base upon which the agriculture economy depends; make the most efficient use of nonrenewable resources and on-farm resources, and integrate natural biological cycles and controls; sustain the economic viability of farm operations; and enhance the quality of life for farmers and society as a whole.

## ***Research Impacts and Communication***

All research projects should include:

- Methods to measure research impacts through monitoring and evaluation techniques
- Outcome-based reporting requirements, and
- Methods to communicate research results to the public.

### ***3. How might USDA better coordinate agricultural sciences among its various agencies and with its partners?***

In general, our experience has been there is a decent level of coordination between REE agencies at the national level, but less than adequate coordination between REE agencies on the ground and between REE agencies and programmatic USDA agencies and with other governmental science agencies. There may no doubt be ways to further improve coordination within REE at the national level and we trust the combined experience of REEO staff will be brought to bear on this issue which seemed to get so much attention during congressional consideration of the research title.

One specific area where increased coordination plus major increased investments for both ARS and NIFA could turn a dangerous situation around is classical plant and animal breeding for 21st century ecologically-based agriculture. Public disinvestment in this research area has been dramatic and is at a crisis point. The new farm bill has taken some important, limited steps to reverse the situation and implementation of even those changes remain in limbo, while much more needs to be done to address the crisis. We would suggest that REEO might consider using this serious issue as an example in the roadmap of the process by which national, regional, and local planning and coordination might take place in the future to solve critical problems.

At the state, local and regional levels, we would recommend that the roadmap address the need for greater on-the-ground integration of efforts between agencies, greater stakeholder participation in decision making, and greater inclusion of farmers and other partners. We would also call attention to REE programs that operate through regional centers as something to be more broadly replicated, and particularly to the SARE program as an excellent model for including other USDA and non-USDA agencies, non-governmental organizations, and farmers, as well as researchers, educators, and extension agents, in the decision making apparatus. This more genuine and inclusive stakeholder involvement directly aids coordination, yet surprisingly has been very little replicated within the rest of REE. We urge you to include in the roadmap a recommendation for wider spread adoption of the SARE model.

Lack of coordination among various USDA agencies is inefficient and misses the opportunity for USDA to provide research-based information to its programmatic areas. While there have been purposefully coordinated projects – such as the Conservation Effects Assessment Project lead by USDA’s Natural Resource Conservation Service as a multi-agency effort to assess the environmental benefits of conservation programs, or the Organic Data Initiative which includes two REE agencies as well as AMS – there does not seem to be an obvious means to initiate and sustain such projects short of special budgets. If in fact that is what it takes, then the roadmap should discuss how the need for specially-budgeted projects that involve REE agencies and programmatic agencies get brainstormed, prioritized, developed, budgeted, and implemented.

A new mechanism for connecting research with the top programmatic efforts could both provide relevant, research-based information to programs as well as have program purposes and objectives drive new research topics. Three quick examples from work that NSAC is engaged in:

***The new \$12 billion Conservation Stewardship Program at NRCS has a multitude of critical research and extension needs.*** To name just a few, the CSP needs tools that will help farmers and technical service providers measure and evaluate on-farm natural resource and environmental benefits. One element of that broad proposition that is underway but needs an urgent boost in resources is the development of a farmer-friendly application of the ARS Soil Management Assessment Framework. CSP also rewards farmers for advanced conservation enhancements, such as for instance advanced ecologically-based pest management systems or advanced managed rotational grazing. These are areas where REE-funded research results and educational support tools can and should be brought to bear to assist NRCS with the development of the conservation enhancements. CSP also will pay farmers for on-farm research and demonstration of conservation systems, but the lead agency needs REE assistance in developing the protocols that will ensure maximum effectiveness of the on-farm R&D investment. Despite the existence of this program in an earlier iteration since 2002, there has been no systematic and only sporadic informal interaction between the programmatic agency and REE agencies.

***The new Organic Initiative administered through the Environmental Quality Incentives Program of the Natural Resources Conservation Service provides another good case for the usefulness of creating a mechanism that coordinates research with programmatic areas.*** Through the new Organic Initiative, farmers transitioning to organic agriculture and existing certified organic farmers have the opportunity to apply to a separate pool of funds to implement conservation practices related to organic production on their land. After the sign-up, ranking, and contract process is finished, a fairly large group of farmers will be implementing new conservation practices to help make the transition to organic production systems. We expect at least several more

iterations of this process in the next several consecutive years. This would be a perfect opportunity to research and measure the impacts of new practices as well as devise feature research questions related to examining the conservation impacts of organic systems, the economics of transition, and the impact of new entrants to the organic sector.

***The Value-Added Producer Grants program administered by the Rural Business and Cooperative Service needs research assistance to develop best practices and to evaluate outcomes.*** Since its creation in 2000, over \$100 million in grants has been awarded individual independent agricultural producers, groups of independent producers, producer-controlled entities, organizations representing agricultural producers, and farmer or rancher cooperatives to create or develop value-added producer-owned businesses. The program has also recently added new priorities for small and mid-sized farms, beginning and socially disadvantaged farmers and ranchers, and mid-tier value chains and local food systems. Each of the program areas, as well as VAPG projects as a whole, are ripe with researchable questions. Moreover, the program has been criticized for not doing outcome-based monitoring and evaluation. This is an area where REE interaction and coordination could pay big dividends.

#### ***4. What are some examples where agricultural sciences are successfully coordinated for maximum benefit? Why are they successful?***

The Sustainable Agriculture Research and Education (SARE) program is an example of a successfully-coordinated research program at USDA-CSREES that can serve as a model for all research programs at USDA. SARE is a competitive grants program that funds research, education, and extension initiatives on profitable and environmentally- and socially-sound practices. It has supported innovation in agriculture, the adoption of more sustainable practices, and rural economic prosperity on a very limited annual budget for over twenty years.

SARE is successful because it:

- **Is participatory:** SARE has four regional councils composed of farmers, educators, scientists, government, NGOs, and other stakeholders. These stakeholders coordinate to set priorities and make grants, creating multiple opportunities for interaction among farmers, researchers, and educators.
- **Emphasizes sustainability:** Projects funded through SARE seek to examine and increase knowledge of sustainable agriculture systems.
- **Conducts outreach and disseminates research results:** SARE grant recipients must share the results of their research. Recipients often conduct workshops or on-farm demonstrations to communicate research results to others. In addition, SARE Outreach produces numerous publications and provides on-line resources with practical information for farmers, ranchers, and educators.
- **Evaluates and measures the impacts of research projects:** Through its monitoring and evaluation efforts, SARE knows the impacts of its grants and whether the program is achieving its purpose.

#### ***5. What are some examples where agricultural sciences are not coordinated effectively? Why is coordination lacking? What are the barriers?***

The lack of effective coordination in the agricultural sciences stems from a narrow, simplified approach to agricultural challenges and the absence of knowledge and application of systems sciences – such as agroecology, ecosystem management, and landscape ecology – to those challenges.

An example of where agricultural sciences are not coordinated effectively occurs in the use of synthetic nitrogen fertilizers on farms in the Mississippi River Basin. Fertilizers provide an essential nutrient to plants, and crop scientists recommend rates of application to farmers that aim to maximize productivity. Farmers apply those rates to their farms, but more than half of that nitrogen runs off of fields. In the Mississippi River Basin, the run-off contaminates waterways and creates a dead zone in the Gulf of Mexico. Excess nitrogen use also creates problems that must eventually be addressed to maintain productivity, including the uncoupling of carbon and nitrogen cycles, and the reduction of soil organic content and water-holding capacity.

In contrast, a well-coordinated effort to address nutrient management on farms requires drawing upon multiple disciplines and having grounding in systems science to realize that actions in one place have effects in another. In this example, the crop scientist could coordinate with scientists from other disciplines – ecology, hydrology, chemistry, etc – to recommend other ways of managing on-farm fertility to increase productivity and avoid negative consequences for human and ecosystem health.

Sometimes the absence of coordination is directly tied to the absence of a coordinator or coordinating function. The roadmap should recommend an increasing use of NGOs as coordinators of applied research efforts to solve critical regional problems. Especially with systems research, a solid team is needed and for the team to function it needs solid coordination. Directing funding through NGOs to bring the team together and keep it focused on problem-solving is a model that has proved successful even though it is not prevalent and current REE program rules weigh heavily against it.

Another huge problem with respect to coordination of research, especially in the systems context, is the fact that the reward system still does not reward it adequately. Much has been written about this problem and we will not spend time here to review that literature. But in our view there is no underestimating the importance of this problem. For the roadmap to be successful in charting a path toward better coordination it will have to tackle the research reward structure issues head on.

***6. What else might USDA do to improve coordination of science; enhance USDA's ability to identify and prioritize investments; and elevate its role in science implementation and coordination?***

We would urge you to consider including in the roadmap a recommendation to create a network of research and demonstration projects to establish and evaluate economic viable farming enterprises based on multifunctional production systems and markets to be managed by groups that include multiple stakeholders and all REE agencies.

We also urge you to recommend a robust, renewed commitment to long-term agro-ecological research sites that are too rare and generally too poorly funded.

It may go without saying, but a roadmap to a sustainable food and farming system will ultimately require goals, objectives, benchmarks, timelines, and progress reports. It will also need democratic public processes for dialogue, agenda setting, and feedback.

We conclude with a recapitulation of our first and most important recommendation: In order to elevate USDA's role in science implementation and coordination – and attract more research funds – USDA must conduct research relevant to the critical issues facing the nation and the world. This requires a fundamental shift in research focus away from yield-centric research towards systems and sustainability research. The roadmap should set out a dramatic proposal for increased REE funding based on addressing the major themes of the Administration and articulate the new direction and enhanced funding in terms that resonate with the public interest.

Attachment

## Sustainable Agriculture Research and Education (SARE) Program

Agency: CSREES/NIFA

### Recommendation

Plan and implement a three-year budget initiative to grow the SARE program to full funding (\$60 million, as recommended by the Board on Agriculture and authorized by Congress in the Farm Bill) by year four.

In addition to continuing all the extraordinary ongoing work and emphases of the SARE program in research, education, and extension, this budget plan will accommodate two critical new and long overdue elements:

1. implementation of the authorized but unfunded *state matching grant program* to leverage state and private money and build the long-term capacity to guide the coming evolution of American agriculture to a highly productive sustainable system; and
2. investments in *long-term systems research trials* and accompanying education and extension/outreach, including long term trials with climate change, soil quality and carbon sequestration, energy conservation, and sustainable biofuels components.

The budget proposals should stair step up each year:

	House & Senate Committee FY 2009 Actual	FY2010 Request	FY2011 Request	FY2012 Request
Research and Education *	14.4	18.0	26.5	35.0
Matching Grant Program	n/a **	7.0	11.0	15.0
Extension	4.6	5.0	7.5	10.0
Total	19.0	30.0	45.0	60.0

\* Within R&E grants, there would be funding pools for new long-term systems trials and for ongoing special grant categories including Farmer/Rancher grants, On-Farm Research Partnership grants, Production research grants, Postharvest/food systems research grants, Sustainable Community grants, Graduate Student grants, SARE Outreach and communications, etc.

\*\* By law (1990), the matching grant program can only be funded once appropriations for research and education grants exceed \$15 million a year.

### **Background**

The SARE program was codified as part of the 1990 Farm Bill and authorized for appropriations of \$60 million a year -- \$40 million a year in research and education grants and \$20 million a year for



extension and training grants. After 20 years of stellar work, however, funding rests at \$19 million a year total, or less than a third of the original goal. Yet demand for grants is great, leading to a low success rate for project submitters relative to other competitive grants programs.

This competitive grants program is perfectly positioned to expand work on the key research priorities flagged in the Obama Rural Platform.<sup>11</sup> Now -- on the 20th anniversary of the groundbreaking National Academy of Sciences *Alternative Agriculture* report that led Congress to authorize SARE at \$60 million a year and at the start of a new Administration that has flagged research on small and mid-sized farms, entrepreneurship, and sustainable energy and conservation systems as paramount -- is the perfect time to fulfill the program's mandate and vision.

SARE has long been at the forefront of the effort to provide cutting edge research and widespread extension of alternative farming systems that improve the profitability of small and moderate-sized farms in ways that conserve energy, solve agro-environmental problems, and promote a more entrepreneurial and community-based agriculture. The US Government Accountability Office, independent evaluators, farmer surveys, and stakeholder reviews all indicate the award-winning nature of the SARE program. Widespread adoption of farming systems using cover crops and managed rotational grazing also speak volumes about the real world outcomes of SARE investments in terms of renewed livelihoods, increased farming opportunities, and environmental improvements.

Even at full funding under the terms of the 1990 Farm Bill at \$60 million, the SARE program would represent less than five percent of **current level** of total CSREES/NIFA funding and less than half that relative to total ARS and CSREES research funding. To put that in perspective, had SARE been fully funded following passage of the 1990 Farm Bill, the \$60 million would have been 8 percent of total spending for CSREES and 4 percent of the combined ARS and CSREES budgets. Adjusting for changes since 1990, the full funding level for SARE based on 1990 ratios should be \$100 million. More importantly, sustainable agriculture has evolved and expanded greatly since 1990, and deserves far more than the tiny share of resources currently being provided for the SARE program. Ramping up the program to \$60 million over three years should really be viewed as a down payment on a more thorough transformation of USDA REE.

**Matching Grant Program.** The matching grant program was created in the 1990 Farm Bill, but with the stipulation that it could not be funded until the appropriation for the basic research and education portion of SARE reached at least \$15 million. The current appropriation for research and education grants still rests just shy of \$15 million and hence the matching grant program has never become operative. With the proposed significant increase in funding, the matching grant program can finally get started.

There is a growing consensus that individual sustainable agriculture REE grants will have greater and longer-lasting impacts if they are part of a larger, sustained effort coordinated and leveraged by investments made at the state and university level. By funding the matching grant program as envisioned by Congress, competitive grants would be awarded to state sustainable agriculture

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<sup>11</sup> "Barack Obama and Joe Biden will increase research and educational funding for projects such as enhancing the profitability and competitiveness of small and mid-size farms, entrepreneurial education for adults and youth learners, and research on alternative energy production systems and how to produce conservation commodities efficiently." (from Real Leadership for Rural America)

centers, programs, and institutes to build long-term capacity, embed sustainable agriculture in university and statewide research, education, and extension, and leverage greater on-farm change.

The matching grant program includes a coordinated set of activities to:

- integrate sustainable agriculture in all State research, education and extension projects
- support new research at sustainable agriculture centers at the nation's land grant and other colleges and universities
- build stronger statewide farmer-to-farmer networks and outreach and technical assistance strategies
- develop innovative sustainable agriculture programs that address high-priority problems and opportunities, and
- incorporate sustainable agriculture studies and curriculum in undergraduate and graduate degree programs.

It specifically would not support bricks and mortar or positions and activities already in place and funded at the state level.

In order to qualify for matching grants, states would need to demonstrate:

- extensive and direct participation of farmers and ranchers in the development, implementation, and evaluation of the program.
- at least 50% of the cost of the proposal provided by the applicant (State appropriated funds, other State revenue, private contributions, in-kind contributions).
- a compelling plan and justification for how the activities of the program will lead to substantial and long-lasting impacts in the state, including embedding sustainable agriculture in research, extension and education at universities and in practice on farms, ranches and communities.
- strong collaboration with relevant public and private organizations in the state (e.g., universities and colleges, state and federal agencies, non-profit sustainable agriculture organizations, food system businesses and entrepreneurial networks, etc.)

Matching Grants would leverage the findings of SARE research and extension grants in order to extend their impact more widely and deeply. The matching grants would also assist states with weaker records in obtaining federal grants in improving their competitiveness, which in turn will help underserved communities.

**Longer-Term Systems Research.** Due to the lack of any major additional new resources (and declining budgets in real terms), SARE has not been able to both keep all of its much in demand programs whole while investing in longer-term systems research. Yet, a bigger commitment to longer-term systems integrated research could yield big returns for inventing the new farming systems needed to mitigate and adapt to climate change, move away from oil-dependent farming, and deal with critical soil and water issues while continuing to improve productivity.

There is great urgency to the need to boost this area of funding. Sustainable agriculture by its very nature is involved in the interrelationships among various system components that are often subtle and may surface only as time allows effects of these relationships to evolve to measurable levels. Agricultural systems are complex and interactions among components determine how the system

performs. Successfully applying a systems approach to research however is not only expensive but requires a longer time frame than the usual two- or three-year grant cycle.

**Conclusion.** With an increase or redirection of research dollars to build the SARE program toward its long-standing authorization level, the long-delayed matching grant program can become a reality and urgent long-term systems work can be added, even while the program continues to deliver on its regular grants programs for research and education, extension training, farmer grants, and community and food systems projects.