UNIVERSITY OF CALIFORNIA DAVIS
AGRICULTURAL SUSTAINABILITY INSTITUTE (ASI)

STRATEGIC SNAPSHOT AT OCTOBER 2009

Prepared by: Thomas P. Tomich
W.K. Kellogg Endowed Chair in Sustainable Food Systems
Director, UC Davis Agricultural Sustainability Institute
Director, University of California Sustainable Agriculture Research and Education Program
Professor, Human and Community Development; Environmental Science and Policy

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OUR INSTITUTE AT A GLANCE

**Our mission** is to ensure access to healthy food and to promote the vitality of agriculture today and for future generations. We do this through integrative research, education, communication and early action on big, emerging issues.

**Our vision for the Agricultural Sustainability Institute.** ASI will be a:

- **Convenor**: bringing diverse perspectives together
- **Clearinghouse**: synthesizing, translating and communicating useful information
- **Think tank**: being the thought leader for interdisciplinary research
- **Pioneer**: taking early action on major issues
- **Incubator**: nurturing the next generation of agricultural leaders
- **Action tank**: linking science with action for sustainable solutions

**Thematic areas**

**Agriculture, Resources, & the Environment**: integration of agricultural systems at the farm/ranch and landscape levels.

**Food & Society**: integration of the food system, linking production, distribution and consumption.

**Education & Leadership**: integrated programs for sustainability education and leadership - kindergarten through post-graduate, including a new **undergraduate major in Sustainable Agriculture and Food Systems** and support for the **PhD in Agroecology** at UC Davis.

**Sustainability Benchmarks for California’s Food System**: a crosscutting activity to produce scientifically-validated metrics and indicators to benchmark trends in sustainability of California’s agriculture and food system.

**Programs and facilities**

**UC ANR statewide Sustainable Agriculture Research & Education Program (UC SAREP)**

**Russell Ranch Sustainable Agriculture Facility at UC Davis**

**Student Farm at UC Davis**

**Team and associates**

- Director Tom Tomich started January 2007
- Deputy Director Kate Scow started January 2008
- 16 other full and part-time staff of various programs and projects;
- 7 postgraduate fellows, 7 graduate student researchers, 13 undergraduate assistants, 1 visiting scholar
- 9 ASI-affiliated professorships in agroecology, sustainability science, sustainability and society, economics of sustainability, plant disease management/soil microbiology, soil science, pollination ecology, invertebrate community ecology, and sustainable animal systems. A further 150 UC Davis faculty self-identified as strongly interested in sustainable agriculture.
- A distinguished advisory board of 23 leaders, representing diverse stakeholder interests.
- UC Davis CA&ES Dean’s Office support in fundraising, events, administration, information technology.
- An expanding network of partners, including UC Davis Students for Sustainable Agriculture, UC Cooperative Extension specialists and farm advisors, and other partners in various sectors.

**Current annual budget**: approximately $2 million; campaign underway to increase to $6 million.
EXECUTIVE SUMMARY

To:       Members, ASI External Advisory Board
From:  Tom Tomich, Director, ASI & SAREP
Date:   28 October 2009
Re:   Key opportunities and challenges for our institute

I am looking forward to seeing you next week for our second annual meeting. I am happy to report that our teams and strategies are in place and we are “ready to roll”.

Along with many in our society, the University of California is facing daunting financial challenges. Despite this sobering situation, and because of ongoing support from the College of Agricultural and Environmental Sciences (CA&ES) at UC Davis and the UC Division of Agriculture and Natural Resources (DANR) and a growing number of other funders, ASI is faced with far more opportunities than constraints.

During this meeting with you, we will be focusing on the concrete steps we will take in the months ahead to seize opportunities in strategic communications, accelerate our ambitious fundraising campaign, and, most of all, through choice of our portfolio of activities. The work we will do together next week to shape and balance ASI’s portfolio of activities will be decisive in our prospects and contributions in the coming 3-5 years.

ASI continues to evolve rapidly. Last year, I launched our ASI Strategic Snapshot 2008 as our inaugural strategic plan. Sections I-V of this document provide a new strategic snapshot at this moment in our development. Continuing with our intent that this is a living document, major additions, changes, and status updates are highlighted in blue italics. I hope this can assist you in your preparation for our meeting.

I would be grateful if you would devote particular attention to the collection of 14 concept notes (Appendices 15-28) that describe in 2-4 pages each our most compelling ideas for new initiatives. These ideas were identified during our staff program planning retreat in September and have been developed further by our Academic Coordinators for your consideration and advice during the main segment of our meeting. Please feel free to sample according to your own passions, interests, and expertise. (Separately, staff have been in touch with some of you to request attention and advice on specific themes.)

A closely-related priority is to seek your advice as we re-launch the SAREP grants program. These grants are a key reason for SAREP’s existence and have played important roles in advancing sustainable agriculture in California and bridging the continuum spanning research, extension, and practical application.

On the next page, I have listed my own selection of milestones and major accomplishments since we last met as a group in December 2008. Our meeting next week primarily is intended to look ahead, so I will not be reviewing these. However, I would invite you to read this page (and skim the Strategic Snapshot 2009) for an impression of our progress, which I believe is accelerating.
Milestones and Major Accomplishments

(10 December 2008 through 3 November 2009)

- Sustainable Agriculture and Food Systems major: Postdoctoral Fellow started in April; all core courses approved; 4 core courses now are offered; major proposal submitted; our first undergraduate scholarships were endowed.
- Annual Bradford-Rominger Sustainability Award endowed.
- Fenton Communication Strategy recommendations received in February.
- Packard Foundation grants for Nitrogen Science (totaling $2.85 M) received in February.
- Five Packard Fellows have joined our team: three postdoctoral fellows (in biogeochemistry, agricultural practices, and policy) and two fellows for communication and engagement.
- Consensus on formation of Inter-university Network on Food and Agricultural Sustainability (INFAS) hosted by ASI at UC Davis; $1.5 M endowment proposal submitted to WK Kellogg Foundation (decision pending).
- Successful SAREP external review completed in April; renewed commitment to SAREP by UC ANR for three years (to 2012).
- “Sustainability” pillar installed at Robbins Hall, home of the ASI offices, in July; this was a collaborative project with the UC Davis Art/Science Fusion Program and the 6th Grade at Davis Waldorf School.
- Two SAREP Academic Coordinators began in July and August.
- UC Davis formally designated 245 acres for long-term agricultural uses at the Russell Ranch Sustainable Agriculture Facility in August.
- Staff Program Planning Retreat held 15 September.
- ASI/SAREP Communication Coordinator began in October.
- Russell Ranch Renaissance underway; database now online.
- Provost’s Agricultural Sustainability Initiative cluster hire of eight ASI-affiliated faculty completed; plus a UC President’s Fellow affiliated with ASI.
- ASI is hosting our first international scholar (Sakae Horimoto of Japan) and has joined our first international scientific network, becoming part of the ongoing Subglobal Assessments of the Millennium Ecosystem Assessment (MA).
- Two new ASI external advisory board members added in October to strengthen representation of UCCE interests, including urban food issues in Southern California and mainstream production agriculture in the San Joaquin Valley.
- ASI Distinguished Speakers Series launched 3 November, with a seminar by Prof Jules Pretty, University of Essex, on “Sustainability and the State of the World Food System”.

MESSAGE FROM DEAN NEAL VAN ALFEN

The success of increasing the supply of cheap food faster than increases in world population growth was one of the major achievements of the 20th century, but there are now concerns being expressed that keeping food production in pace with increasing population growth and prosperity is not sustainable. Critics are concerned that some practices that made food cheap and abundant are damaging to the environment and to the local social fabric and are therefore not sustainable; others are concerned that modern agricultural practices are not sustainable because they are largely dependent on an abundant supply of cheap oil. Meanwhile our farmers are concerned that with increasing costs and regulations that their businesses are not economically sustainable. The Agricultural Sustainability Institute at UC Davis was established to apply the incredible interdisciplinary research capabilities of faculty at UC Davis to solve these myriad problems of sustainability to assure that we continue to have an abundant, safe, and sustainable food supply. In this regard, Chancellor Linda Katehi and I see ASI’s initiatives as an emerging area of excellence as UC Davis moves into our second century.

Neal Van Alfen
Dean, College of Agricultural and Environmental Sciences
University of California, Davis
I – STRATEGIC FRAMEWORK

What distinguishes ASI?

The units of ASI will be held together and distinguished by a shared mission, vision, values and operational principles and a passion for excellence in sustainability science that can transform California agriculture and fully realize California’s potential for global leadership in research, education, and action for agricultural sustainability. These strategic elements were developed collaboratively by ASI staff with input from advisory board members and other stakeholders. We welcome additional comments and suggestions at any time.

Status: Changes and additions appear below. The vision for ASI developed at the inaugural external advisory board meeting has been refined over the past year. As requested, a section on the geographic scope of ASI’s work has been developed.

1. **Our mission** is to ensure access to healthy food and to promote the vitality of agriculture today and for future generations. We do this through integrative research, education, communication and early action on big, emerging issues.

2. **Our vision for food and agriculture:**
   - A food and agricultural system that is innovative, adaptive and profitable;
   - promotes prosperity and equity for people working in agriculture and the food system and for their communities;
   - provides healthy food for everyone;
   - improves the environment and human health;
   - builds awareness and understanding of the food system; and
   - engages public participation in policy decisions affecting food and agriculture.

3. **Our vision for ASI:**
   - **Convenor:** bringing diverse perspectives together
   - **Clearinghouse:** synthesizing, translating, and communicating useful information
   - **Think tank:** being the thought leader for interdisciplinary research
   - **Action tank:** linking science with action for sustainable solutions
   - **Pioneer:** taking early action on major issues
   - **Incubator:** nurturing the next generation of agricultural leaders

4. **Geographic scope of ASI:**
   - **California:** our primary mandate is to serve our home state, which is recognized widely as one of the largest and most dynamic agricultural sectors on the planet. The UC SAREP statewide program is an important mechanism for statewide impact through partnerships with UC Cooperative Extension specialists and county-based farm advisors, among others.
♦ **United States:** we are working to develop ASI’s potential for national scope by hosting the annual National Symposium on Food Systems and Sustainability, which was launched in 2009, and through plans to host the new Inter-university Network for Food & Agricultural Sustainability (INFAS).

♦ **International:** we envision a gradual increase in international activities as appropriate opportunities arise, emphasizing academic exchange and scientific networking. In 2009, ASI hosted our first international scholar (Sakae Horimoto of Japan) and joined our first international scientific network when the California Nitrogen Assessment formally became a part of the ongoing MA Subglobal Assessments. In addition to national exchanges and global networks, our two regional priorities are linkages with programs in the Mediterranean, arid, and semi-arid agro-climatic zones (e.g., Australia, Chile, Egypt, Italy, South Africa, Spain, and the International Centre for Agricultural Research in Dry Areas) and with sub-Saharan Africa. (At this time, we do not anticipate creating capacity for international project implementation; instead ASI will collaborate with the CA&ES International Agricultural Programs Office at UC Davis.)

5. **Our core values:** creativity, inclusiveness, integrity, partnership

6. **Our operational principles**

   Practicing sustainability: we strive to enact sustainability principles and practices in our own activities.

   ♦ **“Walking the talk”:** we work to use sustainable practices in our own operations and actively strive to embody our core values: creativity, inclusiveness, integrity, partnership.

   ♦ **Community:** we embrace and enact the UC Davis Principles of Community in our daily work.

   ♦ **Respect for all:** we affirm the inherent dignity in all people and endeavor to relate to all with respect, fairness and justice.

Legitimacy: we set our priorities and design our programs in response to concerns and aspirations of stakeholders representing the diversity of California

♦ **Spanning boundaries:** we serve the entire state, and all segments of agriculture and the food system.

♦ **Science in the public interest:** we are committed to transparency in governance and priority setting; to open access to results and information; and to accountability to stakeholders.

♦ **Historical awareness:** we recognize the University's historic, current, and potential future roles in shaping agricultural and food systems and their effects on environment and society. We strive to make informed and responsible decisions regarding research, teaching and outreach based on this knowledge.

♦ **Seeking consensus, while respecting differences:** our activities employ a common set of ground rules, including respect for different viewpoints.
Usefulness: responsiveness to stakeholders’ needs – the broad interests of society as well as needs of specific groups – is key to the relevance of our initiatives and provides the necessary focus on real issues and opportunities.

- **Communication for impact**: we ensure that input from stakeholders consistently is sought and used effectively and that our products are translated to reach key audiences in forms they can use.
- **Integration of knowledge**: we actively seek and recognize the value of knowledge embodied in experience on farms and ranches, in communities, in industry, and in policy arenas.
- **Commitment to experiential learning**: we recognize the value of learning-by-doing and actively seek to integrate practical opportunities in our educational programs, training, and outreach activities.
- **Creating and sustaining a learning organization**: feedback, monitoring, evaluation, and impact assessment will be embedded in overall design of our activities.

Credibility: we hold ourselves to the highest standards of professional integrity and scientific rigor.

- **Forward-looking agenda**: we will create and sustain mechanisms to identify and assess emerging opportunities and threats, based on scientific analyses and stakeholder input and informed by global trends.
- **Broad scope, with multidisciplinary balance**: we integrate economic, environmental, and social dimensions of sustainability.
- **Scientific integration and synthesis**: our activities span big, inter-linked issues and multiple scales – ranging from molecular to global; past, present, future.
- **Open inquiry**: we promote critical analysis to challenge ‘conventional wisdom’ and to expand our understanding of technical, institutional, and policy options using the best natural and social science methods available.
II - INSTITUTIONAL ASSETS  
ASI’s foundations

II.1. Land Grant Heritage

The College of Agricultural and Environmental Sciences (CA&ES) at UC Davis has a 100 year history of serving agriculture and addressing environmental concerns in California and around the world. In 2006, CA&ES established ASI to focus research, teaching and outreach on the challenges facing agriculture in the coming century. ASI provides a hub that links initiatives and education in sustainable agriculture and food systems across CA&ES departments and divisions, across the University of California, and with other partners across the state. Issues facing the land grant system in the US include needs to (1) develop and expand research programs and academic curricula to reflect a contemporary view of agriculture and food systems, (2) remove barriers to interdisciplinary research, teaching, and extension, and (3) engage a wide variety of stakeholders to assess their needs and develop priorities to design useful programs and create effective means of communication. Status: the proposed Inter-university Network for Food and Agricultural Sustainability (INFAS), which would be hosted by ASI, is designed to address a number of issues facing the land grant system.

II.2. Programs and Facilities

(See Appendix 1 for ASI organization chart and Appendix 2 for one-page descriptions of each unit or program.)

Sustainable Agriculture Research and Education Program (SAREP) – a statewide program of the University of California with capabilities in grant administration, knowledge management, communication and outreach. Changes at SAREP over the past two years have involved some difficult choices. One SAREP academic coordinator position was closed in 2008 (due to retirement) and two SAREP analyst positions and the IT manager position were phased out in 2009. Two new SAREP academic coordinator positions were recruited to provide scientific leadership for the "Agriculture, Resources and the Environment" and “Food and Society” thematic areas. Our long-serving Senior Public Information Representative retired in 2009; to provide those important communication functions, we recruited a new Communication Coordinator in October.

Status: SAREP program restructuring and recruitments are complete. Top priority now is re-launching SAREP grants program during 2009/2010. Ideas and priorities for a grants program totaling $100,000-200,000 were developed during the Staff Program Planning Retreat in September and will be discussed during the upcoming external advisory board meeting.

The UC Division of Agriculture and Natural Resources (DANR) sponsored a 5-year external review for SAREP in 2009. Key documentation is included in Appendix 12. Major points from that review include:
Structure: ANR endorsed the consolidated ASI/SAREP strategic plan and external advisory board, as long as “the distinct mission and objectives of SAREP are delineated” in ASI strategic plans and annual SAREP work plans.

Governance: recommended expanding the external advisory board, in particular to include UCCE representatives. (This has been implemented.)

Scope: recommended expanding SAREP’s geographic coverage, stakeholder engagement, and commodity coverage.

Collaborations: Recommended expanding engagement with UC ANR programs, workgroups, AES scientists, UCCE specialists, and county-based advisors.

Science-based approach and communications: SAREP should be the premier source and statewide dissemination focus for … unbiased, balanced, science-based information on sustainable agriculture.

SAREP grants program: ANR recognizes the importance of the grants program in “impacting a greater range of programs”, “leveraging additional funds,” and “stimulating thinking”; the grants program “must be accountable in terms of reporting and communications.”

Based on its external review of SAREP, DANR renewed commitment to SAREP, with the next review planned to take place in three years. Taken together, these DANR recommendations are in accord with our own strategic planning and programming objectives for SAREP as a key unit of ASI.

Subsequent to the SAREP external review, DANR has gone through its own strategic review and reorganization and has launched five new strategic initiatives, including one entitled “Sustainable Food Systems”. The implications and consequences for SAREP and ASI of UC DANR restructuring and plans for new initiatives will be discussed at the external advisory board meeting.

Russell Ranch Sustainable Agriculture Facility – a 300-acre facility that houses the Long-term Research on Agricultural Systems (LTRAS) and Sustainable Agriculture and Farming Systems (SAFS) projects; the only long-term research facilities for research on sustainability in irrigated agriculture in the Mediterranean climate zones of the world and one of the few facilities of its kind anywhere. Funding has been below sustainable levels for years. ASI Deputy Director Kate Scow is directing development of a new scientific plan that builds on the original vision, but that also re-engages faculty and students, incorporates lessons so far, addresses emerging scientific priorities, restores necessary analytical routines, and institutes state-of-the art data management protocols so this can be a truly global scientific resource. Status: Restructuring is underway and will be completed in 2009/10. New directions for this unique facility will be discussed at the Board meeting.

Student Farm – provides undergraduate and graduate students with experiential learning including sustainable production practices, applied research and outreach; includes Children’s Garden Program for K-12 students and teachers. The Student Farm continues to thrive, but additional funding is needed to realize significant upside potential.
Bachelor’s degree in Sustainable Agriculture and Food Systems – ASI will host a new interdisciplinary undergraduate major, bringing liberal arts and experiential education principles into undergraduate agricultural sustainability education; core courses are offered by ASI-affiliates; governed by a committee of department chairs. Current funding formulas are not sufficient to implement this innovative major and additional resources are needed. Grants in 2008 from Columbia and Heller Foundations provide significant startup funding. Status: All five core courses have been approved. Four of these core courses were offered in 2008/09 and will be offered again this academic year. Formal proposal of the complete major is moving through the approval process, with formal approval anticipated within 18 months.

PhD in Agroecology and other graduate courses – ASI will support rejuvenation of this established area of emphasis within the top-ranked Ecology Graduate Group. Efforts also are underway to design a new graduate seminar on food systems to be offered through the Community Development Graduate Group. Enrollments currently are low in the agroecology area of emphasis. There has been great growth in interest in food systems among Community Development masters students. Funding for graduate student fellowships can attract new, high-caliber students, who will contribute to ASI research and education activities. Status: Preliminary inquiry in 2009 found that “agroecology” is studied in a range of graduate groups at UC Davis and is not confined to the Agroecology Area of Emphasis. Needs of the broader group include Web presence and activities (intellectual and social) to convene students and faculty, both of these needs can be addressed by ASI. This also suggests that the process to be launched this year to identify recipients for the annual Shapiro Family Award for Best Agroecology Dissertation also needs to reach out to students (and their advisors) beyond the Ecology Graduate Group.

UC Davis Students for Sustainable Agriculture (SSA) – a campus student group working to promote agricultural and food system sustainability in academic programs and campus operations; includes about 10 leading members and 320 members of the community through listserv. Although not officially part of ASI, SSA’s activities include working closely with the ASI director, the director of our Student Farm and other staff to provide input from student perspectives and to facilitate liaison with other students at UC Davis.

II.3. People

(See Appendix 3 for ASI personnel list)

Sixteen staff (full- and part-time), including a five-person core support team serving ASI, SAREP and all affiliated facilities and programs. Seven postgraduate fellows attached to SAREP, Russell Ranch, and the new undergraduate major. Typically six to eight graduate student researchers and 13 undergraduate assistants (all part-time). Status: As shown in Appendix 4 there has been an overall reduction of 2.5 (17%) in full-time equivalent (FTE) core staff positions, combined with more than a doubling (to
almost 10 FTE) of staff positions fully funded by grants. SAREP restructuring and recruitment are complete. It is expected that Russell Ranch restructuring and job classifications will be completed in the coming year. Administrative support for the Student Farm and Russell Ranch, formerly provided by the Department of Plant Sciences, now are fully administered by ASI. Computer and information technology management and Web design now are provided by the CA&ES Dean’s Office; as a result, the SAREP IT manager position was phased out in July 2009. A half-time senior writer/proposal coordinator position is in recruitment; this had been a full time position.

Nine ASI-affiliated professorships, including Kellogg Chair in Sustainable Food Systems (T Tomich), Boswell Chair in Sustainable Management of Soil Resources (W Horwath), and Sesnon Chair in Sustainable Animal Systems (E Kebreab, starting December 2009) and other affiliated faculty in agroecology (J Six), sustainability and society (R Galt), economics of sustainability (P Merel), plant disease management/soil microbiology (J Leveau), invertebrate community ecology (L Yang), and pollination ecology (N Williams). Status: recruitments are complete and the entire group of ASI-affiliated faculty should be on board by December 2009.

II.4. Current annual funding: we are not yet able to prepare an estimate for the 2009/10 fiscal year. Total expenditures for the two previous fiscal years (2007/08 and 2008/09) were between $1.5 M and $2.0 M. Note: These budget figures do not include faculty salaries. (Please see Section III.5 below and Appendix 5 for additional financial information).
III – STRATEGIES FOR ACTION

How ASI will work

III.1. Priority Setting and Accountability

ASI is building institutional capacities to look ahead a decade or more to anticipate big issues and to develop and revise a dynamic agenda for sustainability science research, education, and action. By design, ASI’s mission and vision for change are too broad to work on all elements at once. Thus, a strategic, proactive approach to priority setting is necessary to create themes and activities that are appropriately focused, that are feasible to pursue with available human, institutional and financial resources, that remain true to ASI values and operational principles, and that result in a cumulative process that enhances science-based understanding and action for sustainable agriculture and food systems. Mechanisms for accountability to ASI’s stakeholders are fundamental to ensuring the legitimacy of ASI’s evolving agenda and the usefulness of our products. ASI is working to establish and maintain a range of communication channels that will create meaningful roles for stakeholders in identifying sustainability challenges, shaping priorities, collaborating to find practical solutions, and providing feedback on our results.

Engagement with stakeholders

- **External Advisory Board.** The main purposes of our external advisory board are to advise the ASI director on strategic directions and priorities for action and to assist in identifying resources to accomplish our mission (see Appendix 9). The board also is expected to help ASI maintain and enhance communication channels with diverse stakeholder groups to ensure that ASI programs are directly addressing the needs of specific groups and society as a whole regarding sustainability of agriculture and food systems. To this end, ASI’s external advisory board is structured to reflect a wide range of differing perspectives and is drawn from leaders in their respective fields, including farmers and ranchers; agricultural, environmental, and community organizations; food manufacturers and retailers; educators; policymakers; and the media. Student input is represented on this board as well as on internal advisory committees through “Students for Sustainable Agriculture,” a campus based organization. This board also serves the functions of SAREP’s Program Advisory Committee. The inaugural board will serve for terms of two or three years. Additional board members can be designated as needs and opportunities arise. Board meetings will be convened at least once a year, with other means (e.g., email, conference calls) used as needed to seek advice and input between meetings. A three-person subcommittee of the advisory board, including the board chair, has been established as an executive committee to provide more frequent strategic advice to the director, as needed.
Board composition: In line with suggestions at the inaugural Board meeting and with recommendation of the SAREP external review, two new advisory board members were recruited and will participate in the upcoming meeting (Appendix 8): Rachel Surls, UC County Director for Los Angeles County, and Tom Turini, UC Farm Advisor from Fresno County.

Roles of board members. Roles of board members were outlined in draft form (Appendix 9) and discussed during the inaugural advisory board meeting in December 2008. Ideas regarding the strategic roles of board members that were put forward during the inaugural meeting include: (a) providing feedback, ideas and advice; (b) connecting ASI to new constituencies and resources; (c) staying aware of the difference between their roles as external advisory board members and, in several cases, their roles as ASI partners; and (d) bringing multiple perspectives. Because board members raised a number of questions during that meeting and requested further discussion to clarify their roles, this issue is proposed for further discussion during the 2009 board meeting.

• Online surveys. ASI has launched a Web-based survey initiative to provide for large-scale stakeholder input and to create a first-cut for identification of priority issues for sustainable agriculture and food systems in CA. Results of the 2008 online survey (Appendix 14) have informed development of our portfolio of initiatives.

• Consultation. Our new communication strategy will enable us to take a more systematic approach to our ongoing process of consultation and engagement with stakeholders.

Scientific input to priority setting processes

• Scientific assessment for priority setting. Scientifically-validated indicators will be developed for use by many stakeholders to benchmark trends in sustainability in California’s agriculture and food system. These indicators will reveal where there has been progress toward sustainability and where there are problems; whether there are tradeoffs across sustainability objectives; which strategies and responses can be most effective in addressing problems and balancing tradeoffs; and where knowledge gaps matter most. Creation of the set of indicators also will create capacity to monitor changes, assess risks, and anticipate emerging sustainability challenges and opportunities. In addition to providing the scientific foundation for an operational definition of “sustainability” for California’s agriculture and food system, the sets of sustainability indicators will inform ASI priority setting and could contribute to development of agricultural sustainability standards and a long-term strategic vision for the future of California’s food system. Status: Our California Nitrogen Assessment is underway and is the first element of this crosscutting initiative designed to produce metrics to benchmark agricultural and food system sustainability in California. A doctoral seminar on ecosystem assessment methods was launched spring 2008 and has been offered again in 2009 to create a cadre of graduate students with assessment expertise.
• **Monitoring, evaluation, and impact assessment.** To establish an adaptive, learning organization that can effectively incorporate lessons from experience, ASI needs to develop, implement, and institutionalize processes that monitor and evaluate the quantity and quality of our outputs and that assesses outcomes and impacts on our goals. Some relevant mechanisms are in place in SAREP, but much more needs to be done over the years ahead to create a learning organization. (Also see Section V below, Indicators of Success.)

• **International board of science advisors.** To ensure that ASI’s agenda is on the cutting edge of sustainability science, experts in this field have suggested that ASI institutionalize periodic input (perhaps every 2-3 years) to the director from a network of international scientific leaders. Thanks to the Packard Foundation, input of this type was obtained in development of a major proposal; that experience proved very valuable and suggests this should be developed further in the future.

**III.2. Interdisciplinary, integrative activities**

ASI will lead and manage interdisciplinary, integrative activities that cannot be undertaken effectively within academic departments. ASI will focus and integrate research, education, communication and engagement activities across its evolving agenda and update and adapt these activities as understanding develops in all dimensions of sustainability of agriculture and the food system—plant and animal science, environmental and natural resource stewardship, social and economic issues.

• **Research.** ASI assembles and coordinates interdisciplinary teams to design, seek funding, and implement major sustainability science projects, hosted and managed by ASI. These research projects have the primary goal of identifying scientific principles and practices that enhance sustainability of agriculture and the food system. Priorities include (a) identification of emerging, scientifically-valid innovations and help move them from the margins to the mainstream, (b) coordination and support for long-term research, and (c) knowledge management to ensure that research methods, protocols, and results are archived, synthesized and made available for use by other researchers. For details, see sections IV.1, IV.2, IV.4.

• **Education.** ASI supports programs to educate students of any age, professionals, and the public regarding science-based sustainability principles and practices, exposing them to a variety of ideas, practical experiences, and divergent viewpoints on questions that remain controversial. For details, see section IV.3.

• **Grantmaking.** SAREP grants are a top program responsibility and a key ingredient in building support for sustainable agriculture and food systems activities. SAREP will refocus its activities on grants for agricultural sustainability and food system research and education and on information dissemination. These grants may take a variety of forms, including (but not limited to) both competitive grants and targeted “academic venture capital” grants for new initiatives. For several years, lack of funds has
precluded an effective grant program. As a result, current problems include both lack of sufficient size to attract attention and unreliability from year to year, which also affects the number and quality of potential grantees. **Status:** Based on advice received during the upcoming board meeting, SAREP plans to restart its grants programs as soon as possible.

- **Communication, translation and dissemination.** ASI will produce and disseminate science-based information that responds to stakeholders’ needs and will improve sustainability of agriculture and the food system through uptake and use by a diverse clientele, including all segments of agriculture across a diversity of scales and systems, agricultural labor and rural communities, and bridging the rural-urban interface. **Status:** Fenton Associates submitted their recommendations for our communication strategy in February. A new Communication Coordinator has been recruited to implement those recommendations. He began his appointment on 26 October and it is anticipated that his top priority will be the launch of a new Website.

- **Distinguished speakers and seminar series.** Graduate students and faculty have expressed interest in a regular series sponsored by ASI, which could serve as a means to bring colleagues together for stimulating, rewarding, and enjoyable exchanges of ideas at the forefront of sustainability science. **Status:** This series will be inaugurated with a seminar by Professor Jules Pretty of the University of Essex, speaking on “Sustainability and the State of the World Food System” on 3 November.

- **Meetings, conferences, symposia and other events.** ASI hosts a variety of scientific and social events, providing forums for stakeholder consultations, formation of collaborative partnerships, and implementation of research education and outreach activities. ASI events will provide a “safe space” to convene people with differing (even conflicting) views, unveil controversy, deepen understanding, and to build consensus for action or support public discussion where no consensus yet exists. ASI has institutionalized “working agreements” to ensure interactions are based on mutual respect and is developing an active schedule of events that will accelerate now that the two SAREP academic coordinators are recruited. **Status:** our new Executive Assistant who joined ASI in August, previously led the UC Davis Campus Centennial Celebration and brings outstanding events coordination skills to our team. We will continue to receive backup support from staff of the CA&ES Dean’s office for major events, such as our National Symposium.
III.3. Leadership, collaboration, and coordination

Internal accountability and coordination

Strategic planning, budgeting, and implementation of activities of ASI, SAREP and other ASI units are coordinated within an overall vision, mission, and strategies in order to enhance effectiveness of current programs and of new initiatives. Principles that guide these processes include subsidiarity (delegation to the level of most effective management and decision-making); transparency; and mutual accountability. Now that key recruitments are completed and our team is in place, we are planning training to create a “high performance team,” including enhanced abilities to work effectively in distributed, multi-disciplinary, culturally-diverse teams; to build and maintain internal capacity to facilitate such teams; to leverage team members’ creativity and problem solving capability; to relate effectively with diverse external partners; and to value the diverse contributions from various team members, units and partners.

- Accountability to UC Davis College of Agriculture and Environmental Sciences (CA&ES) and UC Division of Agriculture and Natural Resources (ANR). The ASI director also serves as SAREP director and reports to the Dean of CA&ES and the Vice President of ANR. A memorandum of understanding between CA&ES and ANR (see Appendix 11) delegates management and administrative support of SAREP to CA&ES.

- ASI/SAREP core support team. All core support team positions serve ASI as a whole in order to achieve synergies in strategic planning, priority setting, stakeholder engagement and accountability; budgeting and financial controls; fundraising and proposal preparation, and grant management; communication and public awareness; and monitoring and evaluation. Status: With the recruitment of our Communication Coordinator, our senior team is in place. A vacancy for Senior Writer/Proposal Coordinator, which had been a full time position, will be recruited as a part-time position.

- Internal steering committee. This group includes ASI unit heads and academic coordinators, members of the core support team, affiliated faculty, and student representatives. The committee exists to facilitate synergistic communication, cooperation and collaboration among ASI programs and projects. It focuses on the day-to-day operation and management of ASI and affiliated units. Meetings are open to all staff and agendas typically are distributed in advance. The committee meets as needed, typically about once every six weeks.

Collaboration and coordination with students, faculty and cooperative extension

ASI seeks to bring people together across all divisions of the College of Agricultural and Environmental Sciences at UC Davis, from other UC campuses, UC Cooperative Extension (UCCE), and with other partners across the State of California. These
talented people do not need more meetings for meetings sake. As with any of our partners, we strive to respect their time and believe that people respond favorably to collaborative opportunities with clear purposes, real chances for useful results, and that are stimulating, rewarding, and enjoyable.

- **Recognition and awards for leadership and excellence in interdisciplinary, integrative science.** Professional recognition and rewards for interdisciplinary, integrative research, education, and engagement with stakeholders are inadequate in comparison to more conventional academic pursuits. ASI can help redress this imbalance by creating appropriate incentives (awards, prizes, other forms of recognition) for students, faculty, and UCCE colleagues who demonstrate particular leadership or promise of excellence. Mentoring of junior colleagues is another important area for greater attention. **Status:** Gifts over the past year have made it possible to establish awards for leadership (the Bradford-Rominger Sustainability Award) and for research excellence (the Shapiro Family Award for Best Agroecology Dissertation). The Director will establish an awards committee and we anticipate the first round of awards to be given in 2010.

- **Student Advisory Committee.** This group draws on the Students for Sustainable Agriculture (SSA) group, an informal group on the UC Davis campus, and was formed to provide input to the director regarding undergraduate and graduate student concerns and ideas related to ASI and the environmental, economic and social relevance in sustainability education programs. In addition to SSA, there are college-based student groups throughout California and it is hoped that SSA can assist in engaging with other campuses. Opportunities for student engagement include representation on ASI board, participation in search committees, and co-sponsoring of social events and speakers with Students for Sustainable Agriculture (SSA).

- **Faculty.** In a survey conducted a few years ago, approximately 150 UC Davis faculty members identified themselves as strongly interested in sustainable agriculture. This likely understates interest on the Davis campus and does not include faculty on campuses elsewhere in California, including other UC campuses (especially UC Agricultural Experiment Station faculty at UC Berkeley and UC Riverside and also our colleagues at UC Santa Cruz); California State Universities, community colleges, and other institutions where collegial relationships exist, such as Stanford and Santa Clara. We have been experimenting with different approaches tied to specific opportunities (e.g., requests for proposals) and need to continue to develop our repertoire for engagement and follow up with colleagues on the UC Davis campus. The director hosts dinners for ASI-affiliated faculty two-three times per year and these have been well received by participants. The deputy director for ASI is a CA&ES faculty member and advises the director on CA&ES linkages and issues, including involvement with the other ASI-affiliated faculty positions designated in CA&ES. The director is in frequent contact with counterparts at UCSC and has participated in events at UCB and UCR, but much more time will be required to develop full potential for faculty engagement to tap into talent across California.
• Collaboration with other UC DANR statewide programs and centers. ASI has established relationships with faculty and UC statewide programs working on complementary issues (e.g., Agricultural Issues Center, Kearney Foundation for Soil Science, the Small Farms Center, and the Statewide Integrated Pest Management Program. Status: restructuring of UC DANR and launch of new DANR strategic initiatives may present new opportunities for ASI and SAREP to engage more broadly.

• UC Cooperative Extension specialists and farm advisors. SAREP has built working relationships with a number of UCCE specialists and county-based farm advisors (who in total comprise over 400 UC professionals across the state) through support for collaboration among county, regional and campus-based researchers. Competitive grants are one means to build collaborative links across organizational boundaries, but working groups, communities of practice, collaborative proposals and symposia are other means to that end. Status: The need to broaden and strengthen relationships between ASI/SAREP and UCCE was included in the recommendations from the UC DANR-sponsored external review. Adding two UCCE professionals to the external advisory board is a step toward greater statewide collaboration.

• Mechanisms for consultation and collaboration linking faculty, students and UCCE staff. Regular interaction with numerous interested faculty and UCCE staff would be valuable to ASI as a means to communicate about activities, assess needs, collaborate in development of new initiatives, and reflect on results; such contact is essential to fulfill SAREP’s responsibilities. ASI has been effective in bringing together faculty and UCCE staff for specific purposes (e.g., responding to funding opportunities) and this should improve now that the two SAREP academic coordinators have been recruited. On the other hand, plans for a “Faculty and UCCE Advisory Committee” were considered as a general means of communication and coordination, but seemed to be unworkable (too many meetings, no pressing purpose). Status: the new UC DANR structure and strategic initiatives, particularly the advisory council for the Sustainable Food Systems initiative, may offer new opportunities to enhance collaboration.

III.4. Communication and engagement

• Statewide communication and engagement. Other partners in California (e.g., Roots of Change and many of the types of organizations represented on the ASI external advisory board) play complementary roles with UCCE in our efforts to assist California’s policymakers and communities (both urban and rural) in understanding and implementing sustainable food and agricultural systems and sustainable resource management. Selecting, building and sustaining key relationships with this complex set of implementation partners and potential end users (see graphic in Appendix 6) require a thoughtful and well-targeted strategy for communication and engagement. Status: our newly-appointed Communication Coordinator, together with our two
Packard Communication and Engagement Fellows, are working to implement key recommendations in the Fenton Associates report.

- **National and international leadership, networking and collaboration.** California’s reputation for innovation and leadership in agriculture and the environment is recognized nationally and internationally. The State’s reputation in these areas is linked with the University of California. Thus, ASI is positioned to build on this recognition over time for impact that extends beyond California.

- **Leadership of a new national network.** Status: a proposal for a $1.5 million endowment for ASI to host and to coordinate the new Inter-university Network for Food and Agricultural Sustainability (INFAS) is under consideration by the WK Kellogg Foundation. INFAS will be a national network of more than 20 academic leaders in sustainable agriculture and food systems, including directors of counterpart institutes and centers and holders of endowed chairs at land grant universities and other academic institutions across the US.

- **Global connections.** The ASI Director and other UC faculty have extensive professional relationships internationally that will provide the basis for an envisioned international network of leaders in sustainable agriculture and food systems.

### III.5. Fundraising

Fundraising will be a major preoccupation for the entire ASI team. Director of Major Gifts from the CA&ES Dean’s office, our Communication Coordinator, Proposal Coordinator, and Budget and Finance Analyst each play indispensable roles in providing support to the ASI Director, Deputy Director, Program Manager, Academic Coordinators, and faculty affiliates in these efforts. In addition to the team effort, implementation of our fundraising strategy must be supported by a compelling, socially relevant vision and mission, a results-oriented plan of activities, and an exciting strategy for communication, public awareness and engagement. Success also will depend crucially on active involvement and support from our advisory board members, UC leadership, and other friends and partners of ASI.

In broad terms, ASI’s needs include reliable sources of funding to revitalize SAREP grants at levels of $750,000 to $1.5 million per year, and to fully-fund essential activities of the Student Farm, the Russell Ranch Sustainable Agriculture Facility, the new undergraduate major in Sustainable Agriculture and Food Systems, the Agroecology PhD, the National Symposium on Food Systems and Sustainability, and to implement ASI’s vision, mission and strategies, described above. Status: Please see Appendix 31 for data on funding for the past fiscal year and on recent and pending grant proposals. ASI now is included in the pop-up menu on the “gift button” on the UC Davis Website, enabling donors to make electronic donations to ASI. We also have a new “grants and philanthropic funding” page on the ASI Website that is a public source on our funding.
For the coming 7-10 years, we are planning a campaign to pursue three ambitious fundraising goals (listed below) for ASI:

**Goal 1. $50 million in ASI endowments and philanthropic gifts and to increase ASI’s total budget by $4 million per year.** This would be more than a two-fold increase from under $2 million in 2007/08. The total increase would comprise about $2 million for research, $1 million for education, $750,000 for staffing and operations, and $250,000 for facilities and equipment. ASI benefits greatly from the income and prestige associated with several endowments, including the Boswell, Kellogg, and Sesnon Endowed Chairs, and program endowments such as those from the Campbell Soup Company and the Van Vlierden Estate. In the medium term, ASI needs to replace a significant source of income from the Rosenberg Endowment (committed by CA&ES for 7 more years, at $75,000 annually). Endowments are critical resources for building ASI programs. The reliability and flexibility of these significant flows of income is essential if ASI is to be proactive in setting the agenda for sustainability science and action rather than merely reacting to agendas set by others. **Status:** At the end of fiscal year 2008/09, cumulative value of ASI’s endowment gifts stood at $8,184,100. The ASI endowment campaign nests within parallel fundraising campaigns that are to be launched soon by CA&ES and by the UC Davis campus. As with those other campaigns, prospects for success for ASI are contingent on at least one “mega” gift of $10-20 million (Appendix 31). In the near term, ASI needs to find endowments to replace the Provost’s initiative funds (committed for one more year) at about $40,000 annually, which is approximately equivalent to income from a $1 million endowment. **Decision on a $1.5 million endowment proposal is pending from the WK Kellogg Foundation to support the Inter-university Network on Food and Agricultural Sustainability (INFAS).**

**Goal 2. Secure two or more large program grants each year, totaling $1 million or more.** Criteria for allocation of ASI resources to development of grant proposals include: (a) a “champion” steps forward to lead development and writing of the proposal, (b) proposed project is interdisciplinary and will allow ASI to draw in faculty across departments, (c) fit with ASI’s thematic areas, (d) intellectual merit and potential contribution to ASI’s research, education and outreach programs, (e) potential for connections across the University of California and with other institutions, (f) potential for outreach and collaboration with external stakeholders, (g) significant funding amount, (h) acceptable requirements for matching funds, (i) likelihood of success, and (j) time and resources available to prepare a high-quality proposal. (These criteria are not prioritized.) **Status:** We had created an active and effective team, orchestrated by our Proposal Coordinator, to support efforts by faculty and other partners to produce high-quality proposals for competitive extramural grants. This produced a great increase in numbers of proposals submitted for competitive grants, rising from 2 proposals in 2007/08 to 16 proposals in 2008/09; 15 out of 16 were funded bringing in $2.7 million (Appendix 31). Unfortunately, our full-time proposal coordinator resigned (for personal reasons) in August. While the number of proposals is on track so far in 2009/2010, that momentum cannot be sustained and the average size of proposals has decreased. **The great output and success in 2008/09 compared to 2007/08 and the subsequent drop off**
are in large part due to the proposal coordinator position. We are recruiting a half-time replacement (rather than full time) because of the overall tight budget situation.

Goal 3. Sustain UC support at $1 million per year. Despite a deteriorating overall budget situation, leadership from the CA&ES Dean’s office and the UC DANR Vice President’s office has helped ASI maintain core funding. Continuing support signals strong commitment by CA&ES and ANR to our agricultural sustainability initiatives and, as such, these are powerful assets in our fundraising efforts in addition to being the foundation for the viability of ASI. Status: SAREP’s budget from UC DANR was cut 20% (approximately $100,000) for the current fiscal year, which is proportional to the overall cut faced by DANR. CA&ES decisions on support for the Student Farm and the Russell Ranch Sustainable Agriculture Facility are pending. Likelihood of further cuts in the California State budget create ongoing uncertainty about UC budgets in the years ahead.
IV – CURRENT THEMES AND EMERGING PRIORITIES

Starting points for ASI work

Overall status: We now have reached “the end of the beginning”. The next major step is to get our Board members’ advice as we develop portfolios of initiatives and activities within our three themes and re-launch significant SAREP grants programs. A new category for “crosscutting initiatives” has been added. Based on discussions at the staff program planning retreat, it is worth noting that we could develop a complete agenda of crosscutting ideas, apart from those that fit within our thematic structure.

Possible priorities and the 2-4 page descriptions in Appendices 15-28 were refined during our staff program planning retreat in September. We believe that our work to develop our portfolio of initiatives also will help clarify priorities for stakeholder engagement.

We want to explore the following strategic questions at the external advisory board meeting on 4 November,

- Where do we go deep to deliver results in the coming 3-5 years?
- Which initiatives have greatest strategic value as “proof of concept” for our interdisciplinary approach to research, education, engagement and communication for impact on big issues?
- Who are key partners in delivering results? What do those partners need to achieve impact?
- Do we have an appropriate balance (economic, environmental and social justice) across themes? What are the gaps?

IV.1. Agriculture, Resources and the Environment Theme

- Energy and Climate Footprinting of Food Production and Supply Chains
- Responding to Climate Change
- Sustainable Management of Nutrients and Water in Agricultural Landscapes
- ‘Closing the Loop’: Integrating Sustainable Waste Management in Agriculture
- Harnessing Ecosystem Services to Increase Agricultural Sustainability

IV.2. Food and Society Theme

- Building Regional Markets and Communities
- Community Food Security for Low-Income Residents
- Food System Assessments/ Food Policy
- Farmworker Wellbeing
IV.3. Education and Leadership Theme

♦ Experiential Learning for Post-Secondary Students
♦ Formal Post-Secondary Education in Sustainable Agriculture and Food Systems
♦ Education for Primary and Secondary School Audiences in Agriculture, Environment, Food and Nutrition
♦ Cultivating Leadership in Sustainable Agriculture and Food Systems

IV.4. Crosscutting Initiatives

♦ Sustainability Benchmarks for California’s Food System

V - INDICATORS OF SUCCESS

Where are we going?

ASI’s strategic plan, and particularly our vision statements, suggests a number of desired transformations within agriculture and the food system and institutional capabilities to be built within ASI. With input from the Director, the Program Manager, our Academic Coordinators, Communication Coordinator, and (part time) Proposal Coordinator, the Program Manager will initiate efforts to institutionalize monitoring and evaluation of various performance indicators during the coming year, including measures of inputs, outputs, their uptake by partners, and ultimately studies of outcomes for our partners and impacts in the “real world”.

Status: to launch this important area of work, the Director and Program Manager led a session on monitoring, evaluation and impact assessment during the Staff Program Planning Retreat in September. Within the context of our California Nitrogen Assessment, we are collaborating on joint interests with an evaluation expert retained as a consultant by the Science Subprogram of the Packard Foundation to develop monitoring systems that can help us more effectively link knowledge generation to action and also assist us in developing a “theory of change” in conjunction with development of a monitoring and evaluation plan, which will be implemented by ASI.
VI – LIST OF APPENDICES

Appendices can be accessed at: http://asi.ucdavis.edu/board/meeting-2009/

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**UC DANR Documents**

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**Themes and Possible Priorities**

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Appendix 19: Building Regional Markets and Communities
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Agriculture, Resources and the Environment Theme – Concept Notes
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