



University of California Sustainable Agriculture Research and Extension Program (UC SAREP)

Program Review 2008-2018

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Executive Summary

University of California Sustainable Agriculture Research and Extension Program's (UC SAREP) performance between 2008 and 2018 was evaluated by a review committee charged with addressing questions from the UC Agricultural and Natural Resources (UC ANR) leadership group, Program Council. The results of this review are provided in this report and summarized in the executive summary.

UC SAREP's goals are: 1) to assist California farmers and ranchers in developing and implementing sustainable production and marketing systems; and 2) to support California's rural and urban communities in understanding the concept and value of sustainable agriculture and participating in sustainable food and agricultural systems. These goals are referred to throughout this report as: 1) agricultural production and 2) food systems goals, respectively.

What would be lost if this program didn't exist (Program Council question #13)?

One of UC ANR Program Council's critical questions for this review process is: What would be lost if UC SAREP didn't exist? A summary of findings from the review and UC SAREP's accomplishments are highlighted below to answer this question.

The review committee found that UC SAREP is a vital part of the extension branch of the University of California, bridging communities with the University, to help identify and support critical needs and solve problems with science-based solutions that improve the livelihood of all Californians. Housed under the Agricultural Sustainability Institute (ASI) at UC Davis, UC SAREP has ties to affiliated programs (Russell Ranch, Student Farm, Food System Informatics, and the Inter-institutional Network for Food, Agriculture, and Sustainability (INFAS)) and ASI affiliates, which ensures that UC SAREP has the resources to advance research and innovation, education and training, and outreach on sustainable agriculture for the 21st century.

Nearly 90% of UC SAREP's clientele trust the credibility of UC SAREP's resources and publications, according to a survey conducted in 2019 by this review committee (hereafter referred to as the 2019 review survey). This survey was taken by 225 respondents from a wide range of backgrounds, with UCCE Advisors representing the largest group (36%). This trust enables UC SAREP to readily connect UC research with local community involvement, helping to solve critical problems in agriculture, food systems, natural resources, nutrition, and youth development.

UC SAREP has made significant accomplishments toward its food systems goal that have led to greater health and well-being for Californians and recognition to UC ANR. Examples of impact summarized in question 3 and described through **UC ANR's condition changes** include:

1. UC SAREP promotes economic prosperity of Californians through enhanced community development by developing new markets for farmers through the Farm to School program, agritourism, and new specialty crops.

2. UC SAREP promotes healthy people and communities, leading to improved health and wellness and improved food security by supporting urban gardening, food hubs networks, and food policy councils.
3. UC SAREP focuses on an inclusive and equitable society, helping to increase diversity, inclusiveness, and cultural competency in California's workplaces by working with small-scale and immigrant farmers and providing trainings for extension professionals on uprooting racism.
4. UC SAREP protects California's natural resources by assessing environmental risks, leading to policies for ensuring safe drinking water standards for nitrates, and mitigation targets for greenhouse gas reduction in crops.

These outcomes demonstrate learning, action, and policy changes that have improved California community health and wellness through improved access to healthy foods, safe drinking water, access to markets by urban and small farmers, and inclusion of diversity in California's workplace. Successful outcomes are due to networking with [ASI programs](#) and academic affiliates and UC Cooperative Extension (UCCE) Specialists and Advisors that bring together teams to address critical needs in communities.

Potential for improvement in agricultural production

Less well defined are UC SAREP's accomplishments in its agricultural production goal. UC SAREP identifies and brings attention to critical problems related to agricultural sustainability (e.g. nitrates in groundwater, greenhouse gas emission, biodiversity loss). However, there is less attention to developing practical solutions that farmers and ranchers can implement to mitigate problems. UC SAREP's audience clearly wants to receive information on production agriculture. Over 80% of clientele expressed interest in UC SAREP conducting farmer engaged research on sustainable farming practices and 80% are looking for UC SAREP to engage the food and farming sector in research design, implementation, and dissemination of results (2019 review survey).

UC SAREP is well positioned to facilitate greater opportunities for collaborative research with ASI affiliates and UCCE academics to work on critical needs on farms (e.g. healthy soils, water, nutrients, pest management). They have the resources to pull together farmer-researcher networks for on-farm trials, access to UC research stations, and scientists that can lead projects. Most importantly, they have the trust of the agricultural community, with long lasting relationships with farmers and ranchers.

Recommendations

Following are highlighted recommendations from the report on how UC SAREP can strengthen programs and ensure the programs are addressing needs of communities, both in agricultural production and food systems. These recommendations were based on interviews UC SAREP and ASI Employees, the 2019 review survey with internal and external stakeholders, Ripple Effect Mapping showcasing accomplishments from collaborations with UC SAREP, and information provided about UC SAREP's events (e.g. workshops), grants, and publications. Additional recommendations are mentioned

in the full report. These recommendations align with another independent study of UC SAREP in 2018 by CalCAN, California Climate and Agriculture Network, in their report, [Sustainable Agriculture Research and Education in the 21st Century, Recommendations for UC SAREP](#).

- UC SAREP should conduct periodic participatory and iterative needs assessments to make sure its research and education/outreach priorities meet the evolving needs of its audience, are in-tune with emerging food system issues, and ensure that their research and extension products are useful. (Recommendation 1a).
- Based on their needs assessment, UC SAREP should develop a strategic plan independent of [ASI's strategic plan](#) to clearly identify goals and assess changes in clientele practices and/or policy relative to goals. This could include evaluation plan and system for collecting, analyzing, and sharing program outcomes and impacts, including long-term changes in clientele knowledge, practices, and policy, that spans across individual grant-funded projects in order to identify longer-range outcomes, impacts, and ultimately condition changes and public values. A more robust plan from needs assessment to evaluation may provide a return on investment through enhanced clarity of scope, goals, and methods and strategic use of UC SAREP's limited financial resources. A balanced program with agricultural production and food systems will ensure finding solutions to critical needs of internal UC ANR clientele and external California agricultural community clientele. (Recommendation 1b)
- Lead communication and information flows within and among UC campuses, UC ANR, state agencies, and our California communities on sustainable agriculture production, food systems, and policy. UC SAREP is well positioned to lead a state-wide clearinghouse of UC and UC ANR research and extension materials and facilitate statewide networks on sustainable agriculture like their current role leading the food hub network and farmer educator network. UC SAREP should engage in the California Department of Food and Agriculture's (CDFA's) [Healthy Soils](#) and Food Safety programs to more centrally identify farmer priorities and facilitate on-farm research trials and extend science-based information to clientele. (Recommendation 3e)
- Strengthen UC ANR relationships in order to improve UCCE academics' understanding and recognition of UC SAREP's value and capacity so that UC SAREP's resources and programs are more utilized by UCCE academics. Specifically, UC SAREP should serve in leadership roles in UC ANR's Strategic Initiative (SI) panels to provide long-term vision for UC ANR's SIs, Public Values, and Condition Changes. UC SAREP could also provide support for the 10 Climate Smart community educator specialist positions, which are funded by CDFA. The intent of these positions are more closely aligned with UC SAREP's mission than UC ANR's California Institute for Water Resources (CIWR), which is currently overseeing those positions. UC SAREP could have a stronger presence at UC ANR new hire orientations to ensure integration of programs. Closer UC ANR ties would also help avoid duplication of efforts. For example, the new UC ANR [Healthy Soils](#) website could be housed in UC SAREP. (Recommendation 4a)
- Play a lead role in facilitating sustainable agriculture research (e.g., networking, bringing teams together, communicating clientele priorities). Take more leadership in networking and coordinating among UC and UC ANR researchers, state agencies, and stakeholders in general. Facilitate applied sustainable agricultural research work among ASI affiliate faculty and UCCE Advisors and Specialists, both on UC property (e.g., Russell Ranch, UC Davis Student Farm) and on-farms with farmers and ranchers in local communities. One of UC SAREP's mandates is to

support long-term research in sustainable farming systems on UC farmlands, so strengthening engagement with UC ANR Research and Extension Centers (RECs) should be a priority. Strengthen engagement and extension/outreach activities with farmers, ranchers and the UCCE advisors and specialists that support them. (Recommendation 4b)

- Consider allocating UC ANR/SAREP funds to hire an academic for its agriculture production goal. Currently UC SAREP is comprised of three social scientists (Tomich, Feenstra, Brodt). An agricultural scientist with expertise in crop or range science is needed to bridge the continuum of collaboration between UCCE Farm Advisors and UC SAREP. This would also provide the opportunity to integrate the Small Farms Advisor Program into UC SAREP, giving it a needed home base. The agritourism program was merged into UC SAREP in 2017, greatly benefiting UC SAREP's outreach program to clientele and community needs back to UC ANR. (Recommendation 4c)
- Strengthen outreach/extension work for both internal clientele (e.g., UCCE academics) and externally (e.g., stakeholders, farmers, food system workers). UC SAREP resources are heavily focused on academic publications and reports that have little engagement with UCCE advisors and little applied extension outcomes- particularly the director's publications. There is a need for more information on applied practical solutions to sustainable production related issues. Research needs to be extended through multiple methods (e-newsletters, media, social media, blogs) and multiple types of information (factsheets, infographics) to engage California partners and audiences. UC SAREP's website needs to be updated and regularly maintained to become more relevant to clientele (e.g. actively update solution center for nutrient management), with links to other resources from other programs, including other UC campuses and UC ANR programs and institutes. (Recommendation 6b)
- Ensure proper UC ANR and SAREP branding on all UC SAREP programs and outreach materials so that clientele recognize sources of information. With almost 90% of clientele trusting UC SAREP's information, this is an invaluable trademark to connect with audiences. (Recommendation 7a)
- Develop a strategic fundraising plan for UC SAREP with clear goals, benchmarks and timeline, including efforts to reinstate UC SAREP grants program. The director should dedicate a greater portion of his appointment, of which 50% is paid by UC ANR, to fundraise specifically for UC SAREP. This may include soliciting private donor contributions, and broadening fundraising efforts through competitive federal, state and private foundation grants. UC SAREP program leaders may also consider leveraging partnerships with ASI faculty affiliates to jointly apply for grants with ASI faculty including funding for UC SAREP extension activities. (Recommendation 11c).

Introduction

UC SAREP was established in 1986 as a result of California Senate Bill 872 with legislative mandates to administer competitive grants, disseminate information, and support long-term research related to sustainable agricultural practices and systems. In August 2005, a Memorandum of Understanding (2005 MOU) between UC Davis' College of Agricultural and Environmental Sciences and UC ANR, which stated UC SAREP's mission, *"to provide leadership and support for scientific research and education in agriculture and food systems that are economically viable, conserve natural resources and biodiversity, and enhance the quality of life in the state's community."* In this role, UC SAREP audience includes *"farmers, farmworkers, ranchers, researchers, educators, regulators, policy makers, industry professionals, consumers, and community organizations"* across California. The MOU took effect in 2007 and also established UC SAREP as a unit of ASI. Under ASI, UC SAREP has ties to affiliated programs (Russell Ranch, Student Farm, Food System Informatics, and the Inter-institutional Network for Food, Agriculture, and Sustainability (INFAS)) and ASI affiliates, which ensures that UC SAREP has the resources to advance research and innovation, education and training, and outreach on sustainable agriculture for the 21st century.

UC SAREP is a vital part of the extension branch of the University of California, bridging communities with the University, to help identify and support critical needs and solve problems with science-based solutions that improve the livelihood of all Californians. See the organizational chart in Appendix A to see that UC SAREP has one director, two academic coordinators, two program analysts, one community educator specialist, and four shared core support positions. UC SAREP's goals are: 1) to assist California farmers and ranchers in developing and implementing sustainable production and marketing systems; and 2) to support California's rural and urban communities in understanding the concept and value of sustainable agriculture and participating in sustainable food and agricultural systems. These goals are referred to throughout this report as the 1) agricultural production goal and 2) food systems goal, respectively.

UC SAREP had its first program review by UC ANR in 2009. This is the second program review of UC SAREP. The committee members were:

- Rachael Long, Chair, UC ANR Field Crops & Pest Management Advisor, UC Cooperative Extension Capitol Corridor
- Michael Dimock, Director, Roots of Change, Santa Rosa
- Bill Lacy, Professor, Human Ecology, UC Davis
- Fabian Menalled, Regional Coordinator of Western Sustainable Agriculture Research & Extension, Montana State University
- Dave Runsten, Policy Director, Community Alliance with Family Farmers, Davis
- Jennifer Sowerwine, CE Specialist, Department of Environmental Science, Policy, and Management, UC Berkeley
- Julia Van Soelen Kim, UC ANR Food Systems Advisor, UC Cooperative Extension Marin and North Bay Counties
- Mark Bell, Ex- officio ANR Vice Provost of Strategic Initiatives and Statewide Programs

The review committee was charged with evaluating UC SAREP's performance between 2008 and 2018 and answering questions from a UC ANR leadership group, Program Council. The committee used four methods for collecting information for their evaluation of UC SAREP: a) document review; b) interviews with UC SAREP and ASI employees; c) Ripple Effect Mapping exercise; and d) online stakeholder survey. The findings of each method are shared throughout the report.

Document Review

The committee reviewed information from UC SAREP program materials available on their [website](#) as well as from the director and staff. Materials included the [ASI strategic plan](#), UC SAREP's [Theory of Change](#), ASI's 2018 communication evaluation report, UC SAREP's mission critical document, the August 2005 Memorandum of Understanding between UC SAREP and UC Davis (see Appendix B), slides from the director's presentation to Program Council, two data responses (e.g., lists of extension activities, lists of publications, grant information), and several email exchanges between the committee chair and the director.

Interviews

The committee conducted three interviews. The first was with the UC SAREP Director, who is also the director of ASI. The second was a group interview with the two academic coordinators, two program analysts, and one community educator specialist. The third was a group interview with three ASI employees selected by the director who could speak to the collaborations between other ASI units and UC SAREP. The interview protocols and agenda are provided in Appendix C.

Ripple Effect Mapping Exercise

Ripple Effect Mapping is a qualitative applied research method that combines live mind-mapping, appreciate inquiry, and group interview facilitation to document self-reported outcomes and impacts of a program. The Ripple Effect Mapping exercise for this review focused on the appreciative inquiry prompt, "Share one proud moment, achievement, or positive change in the last 10 years that resulted from your direct work with UC SAREP staff or indirect work with UC SAREP's products or programs." Participants included the review committee, UC SAREP's director and one academic coordinator, one ASI employee, two internal stakeholders who were academics based at UC Davis, and two external stakeholders that represent UC SAREP's agricultural production clientele and food systems clientele. See Appendix D for the final map and table of outcomes documented from this exercise.

Online Survey

The committee developed an online survey to gather input from internal and external stakeholders. The external stakeholder information was provided by ASI, who was asked to provide a list of email addresses for UC SAREP stakeholders. The list was narrowed down to the following audience categories, which were pre-assigned by ASI:

- Ag organizations
- Alternative energy
- Community organizations
- Educators
- Environmental organizations
- Food and ag industry
- Government
- Producers
- UCCE academics (replaced by ANR's list as it was more up to date)

A response rate of 14.6% was achieved. Survey participants were asked to share their level of agreement with UC SAREP's strategies, their opinions on the credibility and relevance of UC SAREP, the extent of their interactions with UC SAREP, and suggestions on future research and extension activities. A full report of survey findings can be found in Appendix E.

Focus

1. Is the program working on critical issues/needs important across the state? (including what is the needs assessment process)?

Response

UC SAREP is working on critical needs and issues of importance across the state. However, UC SAREP's agriculture production goal is not as well represented in UC SAREP's research and outreach program as its food systems goal. UC SAREP should emphasize how its work aligns with audience priority areas and focus on how to incorporate audience needs in program development.

Recommendations

1a. UC SAREP should conduct periodic participatory and iterative needs assessments to make sure its research and education/outreach priorities meet the evolving needs of its audience, are in-tune with emerging food system issues, and ensure that their research and extension products are useful.

1b. Based on their needs assessment, UC SAREP should develop a strategic plan independent of [ASI's strategic plan](#) to clearly identify goals and assess changes in clientele practices and/or policy relative to goals and an evaluation plan and system for collecting, analyzing, and sharing program outcomes and impacts, including long-term changes in clientele knowledge, practices, and policy that spans across individual grant-funded projects in order to identify longer-range outcomes, impacts, and ultimately condition changes and public values. A more robust plan from needs assessment to evaluation may provide a return on investment through enhanced clarity of scope, goals, and methods and strategic use of UC SAREP's limited financial resources. A balanced program with agricultural production and food systems will ensure finding solutions to critical needs of internal UC ANR clientele and external California agricultural community clientele.

1c. The signing parties of the 2005 MOU should revisit this document to strengthen its role and to re-state the goals of UC SAREP and its interactions with the different stakeholders that comprise the California food and farming system, both within and outside the University of California. UC SAREP's merge with ASI and California's social and economic status quo have undergone significant changes since the 2005 MOU was signed. The updated MOU should include recommendations from 1a and 1b to arrive at a set of programs and activities that are mutually agreed upon with UC ANR to incorporate the role of UC SAREP as the extension agent of ASI.

Narrative

UC SAREP personnel provided reliable information on the history of the program, funding structure and expenditures, as well as current research and education/outreach activities. The results of the 2019 review survey show broad audience's agreement in UC SAREP's strategies that 1) engage food

and farming sector in research design, implementation, and dissemination of results, 2) communicate the value of ecosystem services, and 3) provide support in the social justice domain. Specific successful programs include 1) farm to school research and education, 2) building climate-resilient food systems, and 3) California nitrogen assessment. The survey was taken by 225 respondents from a wide range of backgrounds (see appendix E). These positive outcomes were also reflected in the Ripple Effect Mapping exercise, which highlighted numerous situations when an activity promoted by UC SAREP resulted in synergistic interactions among participants, changes in audience behavior, and previously unexpected impacts (see appendix C).

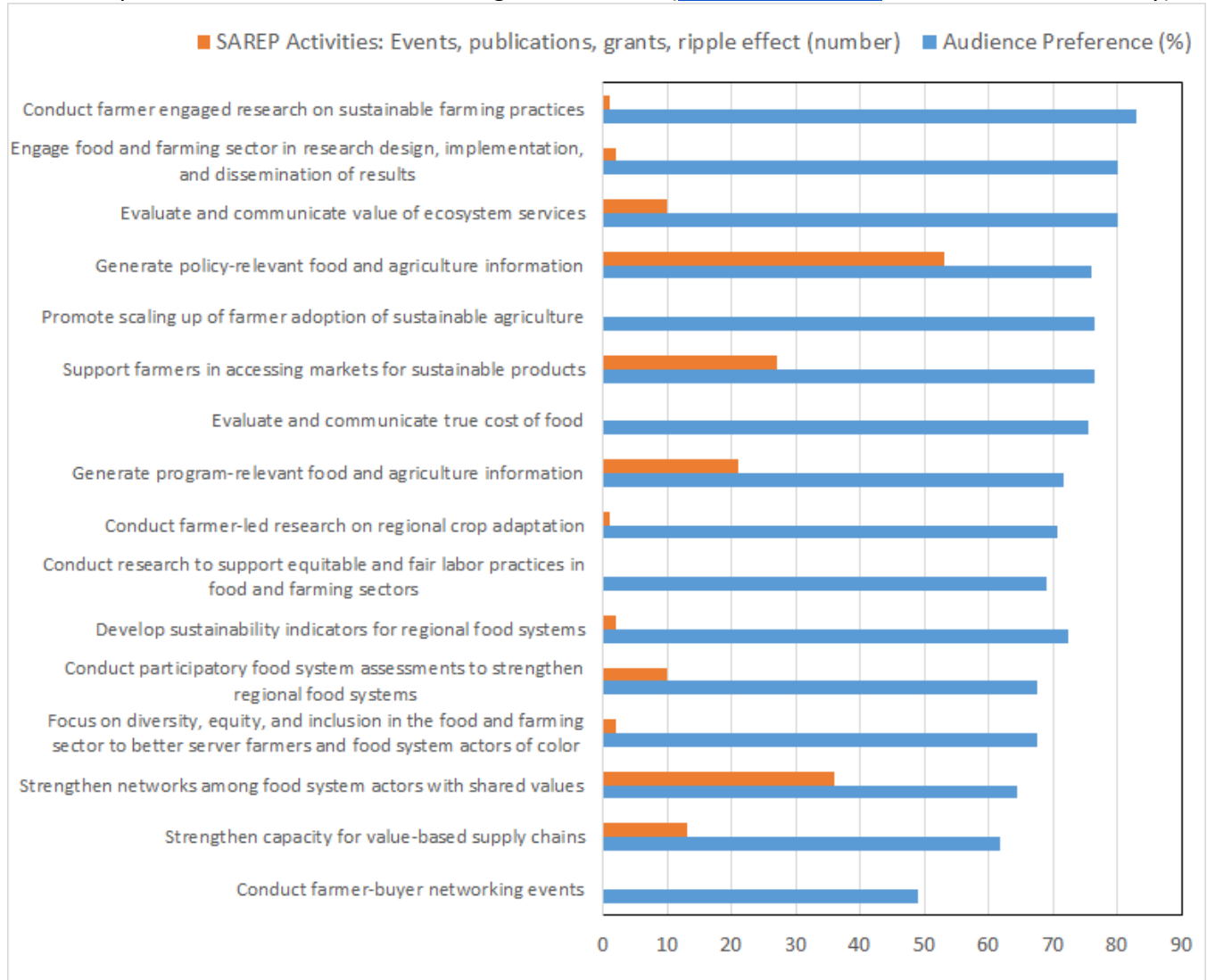
The evaluation of UC SAREP has also identified the following research and education/outreach gaps, as identified through the committee's interpretation of the 2019 review survey findings:

- The program needs to expand its focus to cover ag production centered issues including soil building, soil health, pest management, irrigation, nutrient management, carbon sequestration, as well as buyers' and auditors' education on regulations, and the value of biodiversity.
- Concern exists in UC SAREP's integration with other UC campuses and UCCE Advisors. This lack of integration diminishes UC SAREP's ability to reach a broad audience across California to work together on critical issues. For example, although the California nitrogen assessment provides valuable information which has been presented on numerous occasions, concerns exist that UCCE participation in finding solutions to groundwater nitrate contamination in crop production is delayed, resulting in hardships on farmers to comply with regulations.
- It appears that UC SAREP education and outreach activities are too "UC Davis centered," therefore not reaching rural communities across California.
- The survey suggests that a large proportion of UC SAREP's audience believes the program conducts research and education/outreach activities that are relevant to California agriculture. Yet, specific sectors of the program audience expressed concerns. For example, some of the original UC SAREP stakeholders indicated that as the program has broadened from its original mandate and, by responding to a broad network of diverse participants, it has disengaged ag production centered stakeholders.
- Concern exists that UC SAREP has focused its attention on grant driven issues instead of being based on California stakeholders' needs.
- Members of the audience are unclear on the relationship that exists between UC SAREP and ASI.
- There is a need to identify barriers to the adoption of sustainable farming practices and targeting efforts towards addressing these barriers.
- UC SAREP should re-focus its attention on agricultural production issues with particular emphasis on being responsive to the needs and priorities of its audience.

In the 2019 review survey, respondents were asked to select their priority strategy areas for UC SAREP from a list of 16 topic areas (from UC SAREP's [Theory of Change](#)) that the program does or has worked on. UC SAREP's activities (information provided about events, grants, and publications as well as mentioned in interviews with UC SAREP personnel and the Ripple Effect Mapping exercise) were then compared to the strategies survey respondents thought UC SAREP should focus on. Figure 1 details those comparisons for survey participants (%) and UC SAREP activities (numbers) based on what was

provided by UC SAREP for this review. The Figure shows the need for UC SAREP to emphasize how its work aligns with key audience priority areas and to focus on how to incorporate audience needs in program development.

Figure 1. Number of UC SAREP activities (events, publications, grants, Ripple Effect Map) relative to audience preferences for UC SAREP strategic focus areas ([Theory of Change](#) and 2019 review survey).



2. Are the target audience(s) clear and appropriate given the SWP/I mission (including consideration of underserved clientele)?

Response

Overall the target audiences are clear and appropriate given the mission of UC SAREP. They include a broad range of California agriculture production and food system stakeholders including producers, distributors and consumers and the agencies and organizations that support them. UC SAREP also has a clear and demonstrated commitment to support underserved clientele, including small-scale, immigrant, and women farmers. UC SAREP effectively engages many of their identified target audiences and does so particularly well in their food policy and food systems work. However, in the 2019 program review survey of UC SAREP stakeholders, the occupational breakdown of survey respondents indicated that UCCE academics may be over represented relative to external audiences (e.g., farmers & ranchers). Some UCCE advisors and specialists focused on agricultural production have voiced concern that they are not being included in UC SAREP programs.

Recommendations

2a. Improve communication to key UC SAREP audiences including racial/ethnically diverse populations as well as farmers and ranchers, policy makers, NGO and network organizations and agribusiness leaders. This may include partnering more closely with organizations that serve these groups to increase awareness of UC SAREP resources. Develop a system of tracking outreach to showcase accomplishments in reaching minority audiences.

2b. Consider who UC SAREP's primary and secondary target audiences are and prioritize strengthening relationships with the primary audiences. For example, UCCE academics are listed on UC SAREP's [Theory of Change](#) and also comprised a large number of respondents to the 2019 review survey; so perhaps UC SAREP should focus more on its internal network and convening with UCCE. Farmworkers are listed as one of the target audiences, yet this area seems underdeveloped. Consider exploring opportunities to partner with organizations that support farmworkers to further extend UC SAREP's resources.

Narrative

Target audience: According to UC SAREP's mission, target audiences are clear, appropriate, and diverse for reaching This includes public, private and non-profit agricultural service providers; Policy makers and government agencies; Farmers, ranchers including small, mid-scale and historically underserved producers; UCCE academics; Agriculture, environmental and advocacy groups; Irrigation districts and RCDs; Economic development agencies; Institutional food procurement; Regional distributors; Youth, and Farmworkers.

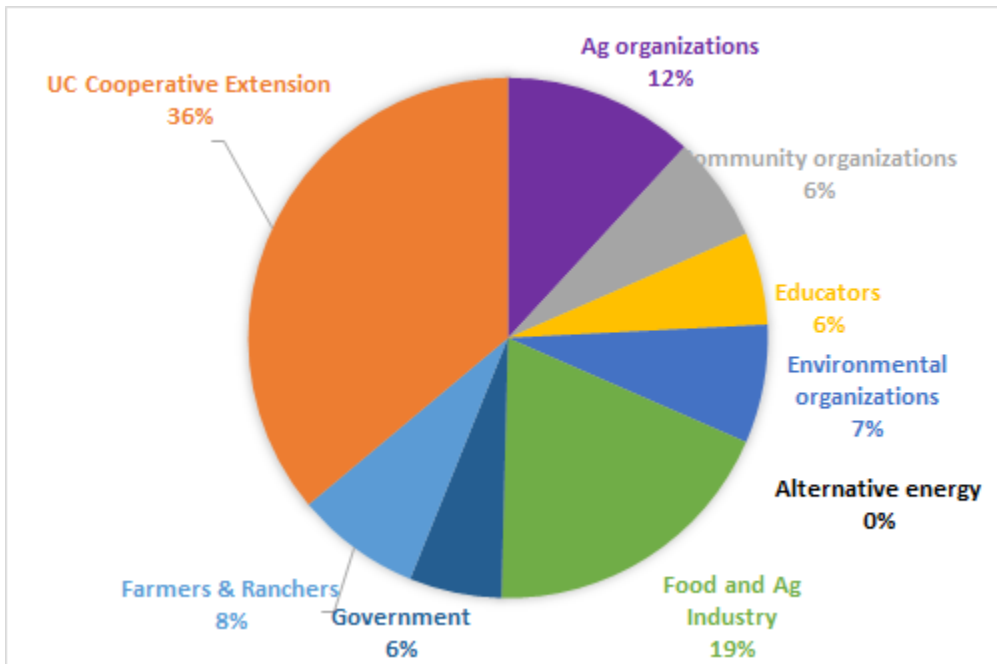
Evidence of reach: UC SAREP programs engaged with agricultural communities, resulting in meaningful impact for many of their target audiences including under-served farmers, distributors, food processors, institutional food procurement groups, policy makers and agencies, and youth.

1. UC SAREP promotes economic prosperity of California through enhanced community development, including developing markets for small and urban farmer through the Farm to School program and agritourism (reaching over 3,000 members), as well as promoting new specialty crops (e.g. Moringa and elderberry). UC SAREP provides technical support for 5,500 schools participating in Farm to School programs that have seen purchasing grow to \$167 million in local food procurement from regional farms.
2. UC SAREP promotes healthy people and communities, leading to improved health and wellness and improved food security. UC SAREP develops and supports urban gardening programs, 20 food hub networks, and 31 food policy councils, to better connect food production with community needs, and ensure access to safe and healthful foods. Over three million students in California benefit from garden-based learning and school salad bars with farm-fresh produce from local farms, resulting in healthy choices and obesity prevention.
3. UC SAREP helps protect California's natural resources through environmental assessments. For example, the California Nitrogen Assessment provided understanding on nitrogen impacts across the state, which led to policies to improve drinking water for over 200,000 Californians at risk from nitrate toxicity. This collaborative work involved 45 authors, 4 editors, 64 scientific reviewers, and 140 agricultural stakeholders. The Greenhouse Gas Emission assessments on multiple commodities provides information on target areas for research on climate mitigation in agricultural production.

Consideration of underserved clientele: UC SAREP is playing a lead role in helping UC ANR achieve its goals related to developing an inclusive and equitable society. Over the last 5-years, 1,375 small-scale and immigrant farmers learned how to grow their farm businesses by participating in tours and workshops led by UC SAREP. In a 2017 evaluation of their farm tour programs, more than half of all participants were women. A CDFA funded project to support small-scale, Southeast Asian farmers in the Central Valley to explore marketing and value-added opportunities through Moringa originated from a series of conversations with Fresno County Small Farm Advisor and resulted in a multi-year collaboration between UC SAREP and the CE Fresno Small Farm Team. In several counties, UC SAREP worked with diverse urban youth to host small-scale urban farm tours building youth leadership and increasing CE knowledge of urban agriculture needs. UC SAREP also works on building extension capacity to work with diverse audiences. In 2019, UC SAREP organized a highly successful workshop titled, "Uprooting racism in the food system" for extension professionals on racial equity in education and extension.

Rationale for recommendations: While UC SAREP's target audience(s) are clear and appropriate, it may be important to consider prioritizing which audiences UC SAREP engages with based on capacity, stakeholder identified needs, and priorities. For example, in the 2019 review survey of UC SAREP stakeholders, the majority of respondents were affiliated with UCCE (36%) followed by food and ag industry (17%) and the fewest respondents from government (5%) (see Figure 2 below).

Figure 2. Survey respondent audience type from the 2019 review survey (audience categories already assigned by ASI; some groups chose more than one affiliation; n=225).



Relatedly, in a 2017 evaluation of ASI communication strategy, there was an over-representation of ASI/SAREP *secondary* audience (university faculty and administration, California consumers and college students) and under-representation of their *primary* audience (farmers and ranchers, policy makers, NGO and network organizations and agribusiness leaders). These data may suggest that UCCE be re-considered as a primary audience with opportunities for SAREP to focus more on its internal network and convening within UCCE and engaging UCCE as primary vehicles for their communications. It may also suggest that UCCE be considered more as collaborators rather than as a “target audience,” which would impact programmatic direction and activities. It may also suggest a need to do better outreach to other target audiences that are not represented in the survey. It is important to note that the racial/ethnic diversity of respondents to the 2017 ASI communication evaluation was low and not representative of the demographics of California. As such, these data may not necessarily reflect the full reach of ASI/SAREP as survey respondents were self-selected. However, it may indicate a need to more effectively communicate UC SAREP’s goals, resources, opportunities, and outcomes to those primary audiences.

Finally, in the 2019 review survey of 225 food system stakeholders, out of 16 strategies SAREP engages to address critical food system challenges, the largest percentage of respondents “agreed/strongly agreed” that UC SAREP should conduct farmer-engaged research on sustainable farming practices (85%), as well as engage the food and farming sector in research, design, implementation and dissemination of results (88%). This suggests that UC SAREP should continue to engage in and/or augment their farmer-engaged research on sustainable farming practices, and continue to engage the food and farming sector in research design, implementation, and dissemination of results.

3. Does the program have a clear and compelling niche and is it communicated well?

Response

UC SAREP has a clear and compelling niche in sustainable food systems and agricultural policy. UC SAREP's leadership in production agriculture needs strengthening, with more research facilitation in sustainable agriculture. This would align UC SAREP's activities with clientele preferences for more farmer-engaged research on developing and implementing sustainable farming practices.

Recommendations

3a. Facilitate on-farm research and long-term research in agriculture production, including organic production. Create opportunities for increased involvement of organic farmers, UCCE Advisors and Specialists, UC ANR's RECs, and more ASI affiliates in research projects. For example, SAREP could re-engage in CDFA's reinstated Biologically Integrated Farming Systems (BIFS) grant program (<https://www.cdfa.ca.gov/oefi/opca/bifs.html>), providing leadership for farmer-engaged programs to help more growers transition to sustainable farming practices.

3b. Expand work on climate change. UC SAREP's work on crop life cycle assessments and nitrogen in drinking water could be the basis for facilitating research to develop and implement practices that farmers can use to reduce environmental impacts.

3c. Revive UC SAREP's grant program by seeking funding; administer competitive grants for research on sustainable agricultural practices and systems (see recommendation 11a).

3d. Recruit and engage more ASI academic affiliates, especially for research in production agriculture, including organic farming. Update ASI academic affiliate list and ensure that ASI affiliates recognize their affiliation in their home websites.

3e. Lead communication and information flows within and among UC campuses, UC ANR, state agencies, and our California communities on sustainable agriculture production, food systems, and policy. UC SAREP is well positioned to lead a state-wide clearinghouse of UC and UC ANR research and extension materials and facilitate statewide networks on sustainable agriculture like their current role leading the food hub network and farmer educator network. UC SAREP should engage in CDFA's [Healthy Soils](#) and Food Safety programs to more centrally identify farmer priorities and implement on-farm research trials and extend science-based information to clientele.

Narrative

UC SAREP has three mandates (2005 MOU): 1) administer grants for research on sustainable agricultural practices; 2) develop and distribute information through publications and on-farm demonstrations, and 3) support long-term research in sustainable farming systems on UC farmlands. UC SAREP is not meeting these tasks. UC SAREP's programs have shifted away from production agriculture, with little research and outreach on key issues, including healthy soils, nutrients, water,

and pest management. While there was outreach from the Nitrogen Assessment study that resulted in safe drinking water policies, there was little to no outreach about management practices for farmers that the review committee found. UC SAREP has not maintained the grants program and on-farm demonstration projects are very limited. The long-term research on sustainable agriculture has been assumed by ASI. Based on interpretation of review interviews, documents provided, and the 2019 review survey findings (see Figure 1; largest agreement was with the strategy about conducting farmer-engaged research on sustainable farming practices), the committee concluded that UC SAREP has taken in a different direction than was originally envisioned, or even envisioned when UC SAREP merged under ASI.

It is UC SAREP's responsibility to summarize and disseminate relevant research results from around the state. As a statewide program it must be aware of what researchers are doing and find ways to communicate their findings. The target audience needs to be not only Extension but also farmers, and a website is not sufficient. UC SAREP's audience wants this information. In the 2019 review survey for audience preferences, the top desire was for UC SAREP to conduct farmer engaged research on sustainable farming practices; the second was for UC SAREP to engage the food and farming sector in research design, implementation, and dissemination of results.

The organic sector is the fastest growing part of the food system, but conversion of farms to organic lags the demand increases, in part due to the lack of research on organic production practices. UC SAREP could address this with a greater focus on organics, particularly in many of the specialty crops that are mainly grown in California. This would be a niche that the thousands of organic farmers in California would appreciate.

Climate change is an existential crisis that will have profound effects on California agriculture. UC SAREP is not the only program in the university that should address this, but UC SAREP seems far behind. The review committee's interpretation of UC SAREP documents, interviews, and the Ripple Effect Mapping findings concluded that there is opportunity for increasing outreach to farmers and providing practical management strategies related to production agriculture. Biologically Integrated Farming Systems (BIFS) was a key part of UC SAREP in earlier years. The state is reviving the program and UC SAREP could certainly play a role in being the facilitator of research in specific crops, such as processing tomatoes, where various ASI academic affiliates have done research, or in table grapes, which was the last UC SAREP BIFS project, or in citrus, where citrus greening looms. Additionally, the committee found that while UC SAREP has had successes in the policy arena, their presence in discussions in the state government about mitigation and adaptation could be improved. Successes in the policy arena include:

- UC SAREP has helped various commodity groups target greenhouse gases in their value chains
- The California Nitrogen Assessment includes a statewide accounting of nitrous oxide emissions from agriculture and other sources, and its effects on climate change, and these results were presented in person by the assessment team to leadership of the California Air Resources Board, CDFA, and the State Water Board, and the Central Coast Water Resources Control Board, as well as the Governor's office in 2016.

- UC SAREP helped organize and participated in a convening with Congressman Garamendi and UC Davis, UCCE and Sacramento schools and farmers to discuss funding for school gardens and local procurement in cafeterias.

UC SAREP's focus on school food has been very important in promoting farm to school programs and evaluating them. There will be new opportunities as Governor Newsom's administration increases funding for these programs. Kat Taylor, an ASI advisor and donor, has been leading an effort with the First Partner to secure increased state funding for school food. UC SAREP should clearly define its niche in school food (as opposed to Edible Schoolyard or Center for Ecoliteracy) and make sure it is actively engaged in new programs.

UC SAREP's leadership on the newly formed Agroecology and Organic workgroup and joint projects with the Organic Farming Research Foundation (OFRF) on beginning farmer curriculum are a good start to focusing on organic production. Additional on-farm research is needed on soils, irrigation, nutrient management, and pest management, along with factsheets and technical information on ways to produce food with minimal impacts to natural resources and public health. Reaching out and collaborating more with UCCE Small Farms and Organic Farm Advisors and Specialists (e.g. Jojo Muramoto, UC Santa Cruz) and working at the UC ANR REC's as well as the UC Davis Student Farm Organic Farmers will help support critically needed information for developing and implementing sustainable farming practices on farms in California.

Connections (Internal)

4. Does the program adequately engage and connect across the UC ANR network and the UC system (including across research and extension, integration with other UC ANR Statewide Programs, and alignment with Strategic Initiatives)

Response

UC SAREP networks with UC ANR, but aligns more closely with ASI and UC Davis, particularly in Food Systems (Food System Informatics and INFAS programs). While there is evidence of UC SAREP leadership in ANR Program Teams and Workgroups and collaboration with UCCE advisors and specialists, UC SAREP could improve its networking capacity and impact by engaging and connecting more strongly across the entire UC ANR Division.

Recommendations

4a. Strengthen UC ANR relationships in order to improve UCCE academics' understanding and recognition of UC SAREP's value and capacity so that UC SAREP's resources and programs are more utilized by UCCE academics. Specifically, UC SAREP should serve in leadership roles in UC ANR's Strategic Initiative (SI) panels to provide long-term vision for UC ANR's SIs, Public Values, and Condition Changes. UC SAREP could also provide support for the 10 Climate Smart community educator specialist positions, which are funded by the California Department of Food and Agriculture (CDFA). The intent of these positions are more closely aligned with UC SAREP's mission than UC ANR's California Institute for Water Resources (CIWR), which is currently overseeing those positions. UC SAREP could have a stronger presence at UC ANR new hire orientations to ensure integration of programs. Closer UC ANR ties would also help avoid duplication of efforts. For example, the new UC ANR [Healthy Soils](#) website should be housed in UC SAREP.

4b. Play a lead role in facilitating sustainable agriculture research (e.g., networking, bringing teams together, communicating clientele priorities). Take more leadership in networking and coordinating among UC and UC ANR researchers, state agencies, and stakeholders in general. Facilitate applied sustainable agricultural research work among ASI academic affiliates and UCCE Advisors and Specialists, both on UC property (e.g., Russell Ranch, UC Davis Student Farm) and on-farms with farmers and ranchers in local communities. One of UC SAREP's mandates is to support long-term research in sustainable farming systems on UC farmlands, so strengthening engagement with UC ANR Research and Extension Centers (RECs) should also be a priority. Strengthen engagement and extension/outreach activities with farmers, ranchers and the UCCE advisors and specialists that support them.

4c. Consider allocating UC ANR/SAREP funds to hire an academic for its agriculture production goal. Currently UC SAREP is comprised of three social scientists (Tomich, Feenstra, Brodt). An agricultural scientist with expertise in crop or range science is needed to bridge the continuum of collaboration between UCCE Farm Advisors and UC SAREP. This would also provide the opportunity to integrate the

Small Farms Advisor Program into UC SAREP, giving it a much needed home base with the closure of the Small Farms program. The agritourism program was merged into UC SAREP in 2017, greatly benefiting UC SAREP's outreach program to clientele and community needs back to UC ANR.

4d. Create opportunities to include more UCCE Advisors and Specialists in UC SAREP publications to ensure that the information is relevant to clientele and UCCE and that collaborations are encouraged and rewarded.

4e. Incorporate greater statewide UC ANR representation in the ASI/SAREP Advisory Committee to provide a stronger connection between UC ANR and SAREP. Vice-Provost Bell for Statewide Programs should be added to the committee and one to two additional representatives from other statewide programs and Institutes (e. g. Nutrition Policy, Ag Issues Center, Water Resources, UC IPM).

4f. Engage and partner with UC ANR [Statewide Programs](#) and UC ANR Institutes ([water](#) and nutrition policy) to provide support for UC ANR's [Healthy Soils](#), [Climate Smart Ag](#) program as well as other UC's (e. g. Berkeley, Riverside, UC Santa Cruz) and the UC Davis [Smart Farm](#) and [Conservation Tillage](#) programs.

Narrative

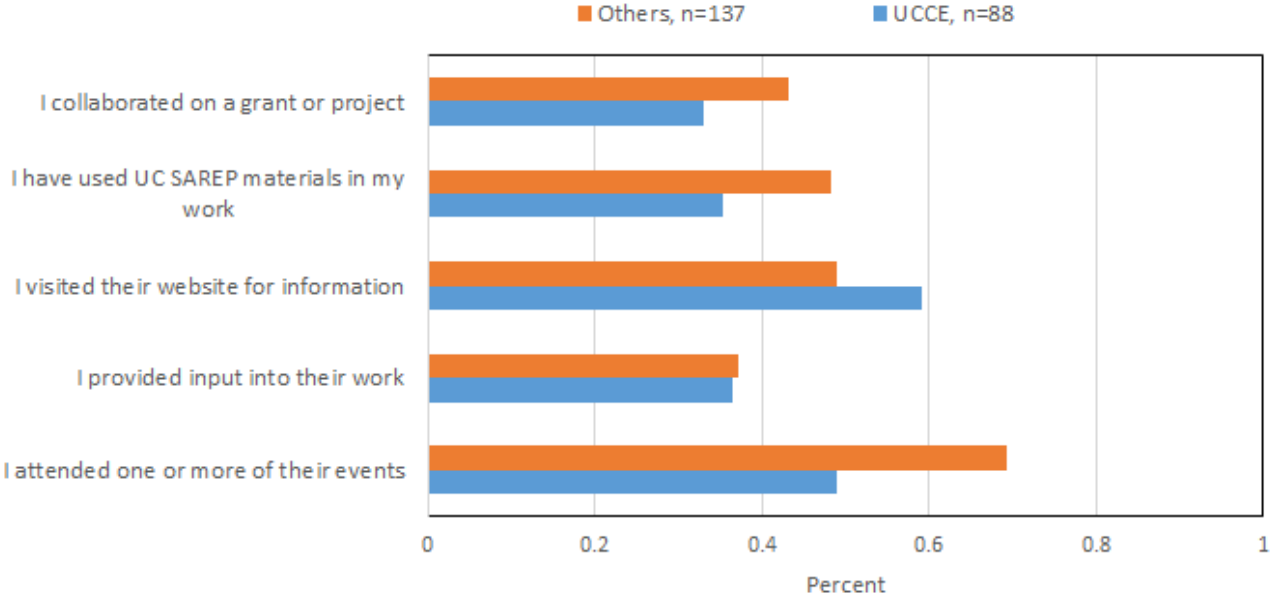
During the past 10-years, UC SAREP engaged and partnered with UC ANR and other organizations in 27 counties along with 5 UC campuses and Cal State universities. These collaborations resulted in highly productive and impactful programs, addressing critical needs in California, especially in Food and Agricultural Policy. Examples of UC SAREP program successes include:

- Increased awareness and importance of Food Policy Councils for UC ANR and external audiences statewide and nationally for building healthy communities.
- Mentoring new urban agriculture, food systems, and public policy Advisors and Specialists, including helping early career advisors make campus-based, statewide, and national connections and ensuring successful award of multiple large-scale grants in partnerships.
- For the Kern County Food System Assessment, UCCE and UC SAREP colleagues strengthened relationships between the food policy council and people working in production agriculture for impactful programs.
- In partnership with UCCE urban ag, food systems, and IPM advisors, UC SAREP created the first ANR Urban Ag website, with 23,000 web visits (2017-2018), including curricula for urban farmers from 16 workshops conducted statewide.
- UC SAREP provided Leadership for the CA Nitrogen Assessment with UC ANR colleagues that led to policies to improve drinking water for over 200,000 Californians at risk of nitrate toxicity. This collaborative work involved 45 authors, 4 editors, 64 scientific reviewers, and 140 agricultural stakeholders.
- Life cycle studies of greenhouse gases (GHG) builds partnerships with UCCE for GHG mitigation opportunities in rice, tree fruit and nut crops, processing tomatoes, and honey bees and pollination services.

- UC SAREP’s cover crop database used by UCCE Advisor Lloyd to develop organic nitrogen budgets and extension materials delivered through workshops to >250 people and one-on-one technical assistance to about 30 people, helping farmers comply with CA nitrogen regulations, reducing input costs for organic farmers, and providing better projections of available nitrogen.
- UC SAREP received Western Sustainable Agriculture Research and Extension grants between 2017-2019 to conduct workshops for Extension on working with underserved communities. Because the funds must be used for professional development of agricultural and extension professionals, this leadership role provides an important avenue for UC SAREP to engage with UC ANR, especially UCCE academics, across the state.

There are opportunities for UC SAREP to have a stronger presence in UC ANR to improve networking and problem solving capacity. UC SAREP’s academic position descriptions are inclusive of expectations for collaborations with UC Cooperative Extension professionals. However, in looking at the 2019 review survey results, UCCE affiliated respondents indicate they don’t collaborate with UC SAREP on grants or projects, use UC SAREP materials in their work, or attend UC SAREP events as much as other respondents (Figure 3). UC SAREP appears to do a good job of engaging with audience groups who are already working with them, but there is a need to bring more UCCE presence into UC SAREP’s program. This suggests perhaps a need for UC SAREP to strengthen collaboration with UCCE academics and provide more useful materials and events for UCCE academics.

Figure 3. Level of interaction with UC SAREP in the last 10-years (2019 communications survey results of multiple selection question).

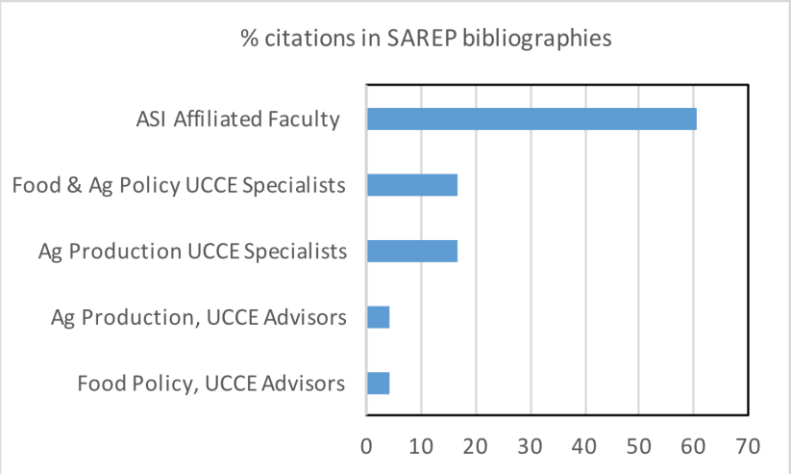


To improve this relationship UC SAREP could investigate the longer term potential to hire an Agricultural Scientist Director to oversee the agricultural production programs in UC SAREP. Currently, there are 3 social scientists directing UC SAREP programs; not a single UC SAREP academic or staff member has a strong academic background in production agriculture. There is a need for an Ag

Scientist to guide collaborations with agricultural production Advisors and Specialists (including crops, animal science, and rangelands) to find solutions to critical needs, including soils, irrigation, pest management, nutrient management, and animal health. The Ag Scientist Director could also provide leadership for the UCCE Small Farms, Organic, and Sustainable Farm Advisors. CalCAN, California Climate and Agriculture Network, came up with similar conclusions in their 2019 report on Sustainable Agriculture Research and Education in the 21st Century ([CalCan](#)).

There is also a need to increase partnerships with more UCCE Advisors and Specialists in UC SAREP publications to encourage more collaborative work. Currently, UCCE Advisors are seldom included in UC SAREP’s peer reviewed publications and books (Figure 4). Collaborations on publications could help ensure information developed by UC SAREP is based on the strongest available science and is relevant for UC SAREP audiences, especially in agricultural production where UC SAREP lacks scientific expertise.

Figure 4. Co-authors of publications (48 total) cited in UC SAREP’s bibliographies (peer-reviewed journal articles and books) by title (e.g., 2 out of 48 citations (4%) included UCCE Farm Advisors).



There is also a significant need for networking between UCCE, UC SAREP (including ASI) to bring more resources into communities (e.g. county-based UCCE offices) to help address critical needs. For example, expertise on soils for CDFA’s [Healthy Soils Program](#) with grower demonstration grants and farmer-led research grants on sustainable agriculture practices). It is also important for UC SAREP to engage in programmatic orientations to more proactively introduce UC SAREP’s program to new UCCE Advisors.

While the 2019 review survey included high marks across many questions, there were also several comments from UCCE Advisors and Specialists expressing dissatisfaction with UC SAREP, mostly for a lack of engagement or collaborations in UC SAREP programs (Figure 3). One Advisor stated, “Virtually no interaction and was once one of their best CE collaborator.”

These comments indicate that UC SAREP has become less visible over the years, with less interaction compared to years past. Additionally, a review of the UC ANR websites shows a lack of UC SAREP involvement in UC ANR Strategic Initiatives; UC SAREP is not a listed program under any Strategic Initiative. UC SAREP used to be the “go to” UC ANR Statewide Program for information on sustainable agricultural practices. UC SAREP would benefit from stronger leadership from Director Tomich to focus on developing stronger ties with UC ANR. ASI is an internationally recognized program and Director Tomich is having an impact in the global conversation among academics about the nature of agricultural sustainability. However, more leadership from UC SAREP is needed to focus on Public Values and Condition Changes to showcase and strengthen UC ANR’s programs. A start would be to ensure that UC SAREP/ASI’s advisory board has more representation from UC ANR administrative leadership positions (e.g. VP Mark Bell) and ensuring UC SAREP staff are serving on Strategic Initiative Panels.

Reach (External)

5. Does the program ensure that research and extension products are useful and science-based, including when delivered through volunteers and other organizations?

Response

UC SAREP produces scientifically credible and useful information. However, gaps could be filled by doing an assessment to identify important needs and challenges, using those needs to inform research and extension projects, and measuring impact on communities that use the information.

Recommendations

5a. Ensure that extension products are useful and relevant through greater collaboration with Agricultural Experiment Station (AES) faculty (including other campuses, e.g. Santa Cruz, Berkeley, Merced, and Riverside), UC ANR REC's, and UCCE specialists and Advisors.

5b. Data suggest that UC SAREP should collaborate more with UCCE personnel on grants and projects and solicit their input into UC SAREP programming to ensure the products and modes of dissemination are relevant for use by UCCE, particularly in relation to the website.

5c. Facilitate the extension of existing organic research that is happening throughout UC (e.g. UCCE Organic Specialist Muramoto, Small Farms Advisors, Organic/Sustainable Advisors). UC SAREP could serve as a central source for UC-generated information on organic production that could link into other sites (e.g. OFRF, Organic Farming Research Foundation and CCOF, California Certified Organic Farmers) (also see recommendation 3e).

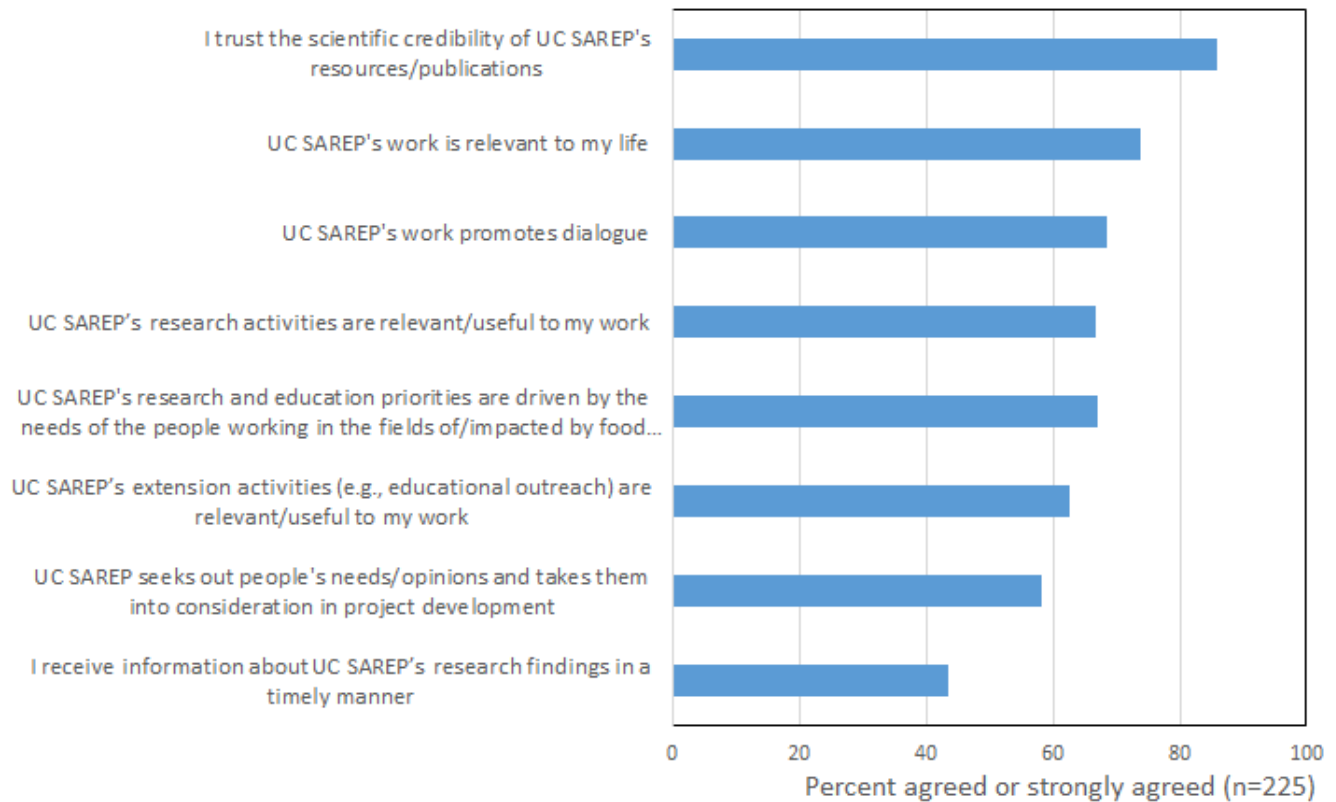
5d. Research and extension could be improved by with opportunities to strengthen the delivery of information through UCCE and partnerships with food and farming stakeholder organizations.

Narrative

Almost 90% of UC SAREP's clientele trust the scientific credibility of SAREP's resources and publications. About 75% agreed that UC SAREP's work is relevant to their work. Ripple Effect Mapping provided illustrative examples about how UC SAREP has built connections and shared information with food system stakeholders who are then able to advocate for the work they do to strengthen urban agriculture and youth leadership development. UC SAREP proactively seeks ways to ensure that research and extension products are useful to traditionally underserved audiences. This has included targeted research and outreach to underserved immigrant and low income farmers and conducting an internal social equity audit of ASI/SAREP. They have spearheaded professional development opportunities in diversity, equity and inclusion for UCCE personnel to better equip UC ANR academics and staff with the capacity to effectively generate and provide useful research and extension products

to all our diverse California clientele. This is a niche currently underrepresented in UC ANR. UC SAREP has a broad scope and many stakeholders whom they seek to support through research and extension. They have clearly generated useful and science-based products that have had important impacts across many sectors of the food system (see question 3 for more information).

Figure 5. How clientele (audience) views UC SAREP’s credibility, relevance and communication efforts (% agree, strongly agree), 2019 review survey.



Weaker areas are audience perceptions of UC SAREP’s work being driven by stakeholder needs (67% agreed) and UC SAREP’s work to incorporate stakeholder opinions in project development (58% agreed). Survey respondents (36% of whom were UCCE academics) identified the need for UC SAREP to bring more people to the table, reaching out to more diverse audiences and doing more outreach and collaborative work.

There is also some concern among UC SAREP stakeholders that applied organic research with practical extension information for organic farmers has been underrepresented. In an open-ended survey response, stakeholders articulated additional strategies they would like UC SAREP to focus on to address critical needs in California. The largest number of responses (22) were in relation to agriculture production with several references to organic agriculture. There is some evidence that the organic farming community is frustrated because UC SAREP has not done research the community expected

they would cover. One organic farm advisor expressed the concern that science is not directed at the right things. Several references articulate a desire for stronger leadership and bold thinking from UC SAREP in relation to organics and to re-engage in farmer-centered research to generate scientific solutions for the organic farming community. UC SAREP is addressing this through Sonja's service as chair of the newly formed UC ANR Agroecology & Organic Farming Systems Workgroup.

In addition to organic farmers, farmworkers seem underrepresented as a target audience, yet UC SAREP is taking efforts to address this. Feenstra produced a research agenda and database of researchers and NGOS around the state focused on farmworker issues, and Brodt includes farm worker concerns in her research. ASI/SAREP has recently recruited new board members that have been able to strengthen voices advocating for social and environmental justice. In addition, Feenstra is working on a multi-state AFRI grant with colleagues focusing on farmworker welfare.

In summary, UC SAREP is producing scientifically credible and useful information that is driven more by external stakeholders working in the food and farming sector than by internal stakeholders with UCCE. Yet more outreach and collaboration is needed, especially with UCCE advisors and specialists. Strengthening farmer-centered organic research and extension and developing more effective communication strategies to amplify and extend the reach of the science-based information generated by UC SAREP to more food and agriculture food system stakeholders is recommended.

6. Does the program extend information effectively (including virtual)?

Response

UC SAREP's programs are perceived as providing useful, credible, and legitimate sustainable agriculture and food systems resources for clientele. UC SAREP's outreach program would benefit from establishing a stronger role as a convener, to better understand needs in agricultural communities, and extend information that meets community needs. Communications staff need to more effectively support program needs and all UC SAREP staff need to engage better in communications outreach.

Recommendations

6a. Improve understanding of audience needs and how people view and engage with UC SAREP. This would help improve UC SAREP's two-way communication efforts to ensure that information generated meets the needs of California communities (see recommendation 1a).

6b. Strengthen outreach/extension work for both internal clientele (e.g., UCCE academics) and externally (e.g., stakeholders, farmers, food system workers). UC SAREP resources are heavily focused on academic publications and reports that have little engagement with UCCE advisors and little applied extension outcomes- particularly the director's publications. There is a need for more information on applied practical solutions to sustainable production related issues. Research needs to be extended through multiple methods (e-newsletters, media, social media, blogs) and multiple types of information (factsheets, infographics) to engage California partners and audiences. UC SAREP's website needs to be updated and regularly maintained to become more relevant to clientele (e.g. actively update solution center for nutrient management), with links to other resources from other programs, including other UC campuses and UC ANR programs and institutes.

6c. Work with UC ANR Communication Services to better outreach information to clientele, for example, providing more information in Spanish (via UC ANR's News and Outreach in Spanish) or through infographics.

6d. Ensure UC ANR's 50% FTE for communications is working on outreach for UC SAREP (internal and external). Extending useful information is a critical need for clientele.

6e. Update UC SAREP's mailing list; the current list is outdated. New generations of farmers and food system workers need to be captured on UC SAREP's list.

Narrative

Almost 90% of clientele trust UC SAREP's resources and publications (2019 review survey, Figure 5). This gives SAREP a huge amount of power and support to get information out to clientele to address needs in California's agricultural systems. Weaker areas were audience perceptions of UC SAREP's work being driven by audience needs (Figure 3). As one UCCE advisor summed up, "SAREP seems to have dropped off the radar screen as far as my work goes, very different than 10-20 years ago... I don't

even know what they are working on now as little information from the program has been sent my way that I can remember.”

UC SAREP has successfully organized field meetings, tours, and workshops to outreach information to clientele, reaching diverse and underrepresented audiences. For example, UC SAREP led wholesale tours with Hmong farmers for accessing markets; they organized regional CRAFT tours in seven California counties (farmer trainings on marketing); they organized and participated in meetings with farmers to discuss carbon cycles and greenhouse gas mitigation; they hosted numerous meetings on food hubs, and they recently held a workshop on diversity, bringing in UCCE advisors from around the state to learn more about diversity and inclusion in agricultural communities.

Other outreach opportunities include e-newsletters, which was the most preferred method for clientele to receiving information from UC SAREP (Figure 6). Journal article publications were overrepresented relative to what external audiences are looking for (Figure 7). Clientele preference for UC SAREP generated information includes research updates, food and ag policy updates, and technical information (e.g. best management farm production practices), (Figure 8). People wanted access to this information through collaborating on extension projects (e.g. workshops), on-farm research trials, and agricultural and food policy work (Figure 9).

The 2019 review survey respondents further expressed interest in UC SAREP prioritizing support for on-farm demonstration, farmer-led participatory research that promotes the adoption of innovative sustainable farming practices. The BIFS (Biologically Integrated Farming Systems) programs that UC SAREP used to administer were cited as examples of on-farm demonstration programs that involve farmers, in addition to CDFA’s [Healthy Soils Program](#) statewide farmer-led projects facilitated by UC SAREP would help reach a more diverse and broad clientele to help others adopt sustainable agriculture farming practices, including organic farming.

UC SAREP’s audience preference is for resources via website services. Average time spent on the UC SAREP website is 1 min per page view, with the most visited page being, “What is Sustainable Agriculture”. More could be done to make information accessible and increase page view times. Ensure links are available to UC ANR programs and institutes and other UC Sustainable Ag programs and make information relevant by keeping it up to date. Through correspondence with the program communications analyst, it was confirmed that there is a lack of funding to actively maintain the Solutions Center for Nutrient Management; it should be regularly maintained to become more relevant to clientele. There seems to be duplication with UC SAREP’s website and UC ANR’s [Healthy Soils](#) website, which needs to be resolved so there is a unified resource. Information is lacking for evaluating other sources of social media outreach used by UC SAREP (e.g. Twitter, Instagram, Facebook) and media, because efforts reported were not independent of ASI.

Figure 6. Preferred method of communication by UC SAREP’s audience for UC SAREP engaged research and extension work (percent audience response), 2019 review survey.

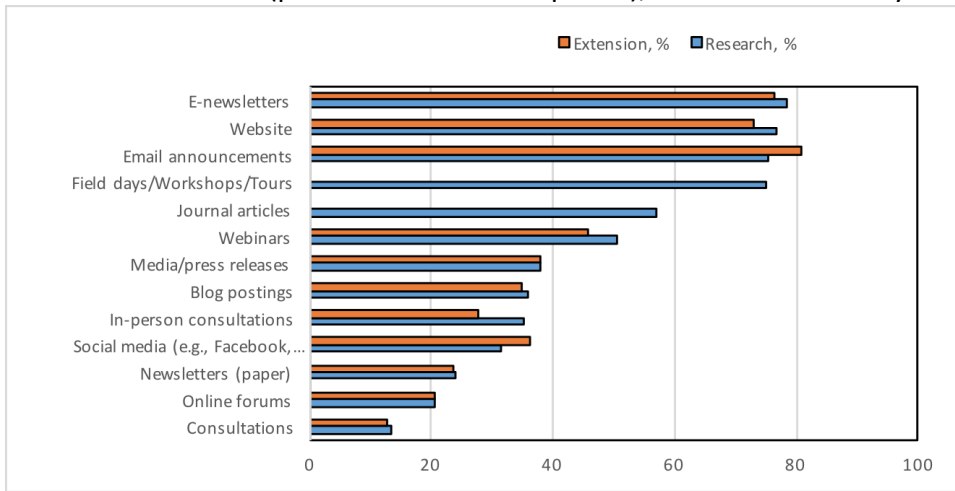


Figure 7. Preferred method of communication by UC SAREP’s audience for UC SAREP engaged research and extension work (percent audience response) versus number of UC SAREP activities, 2019 review survey.

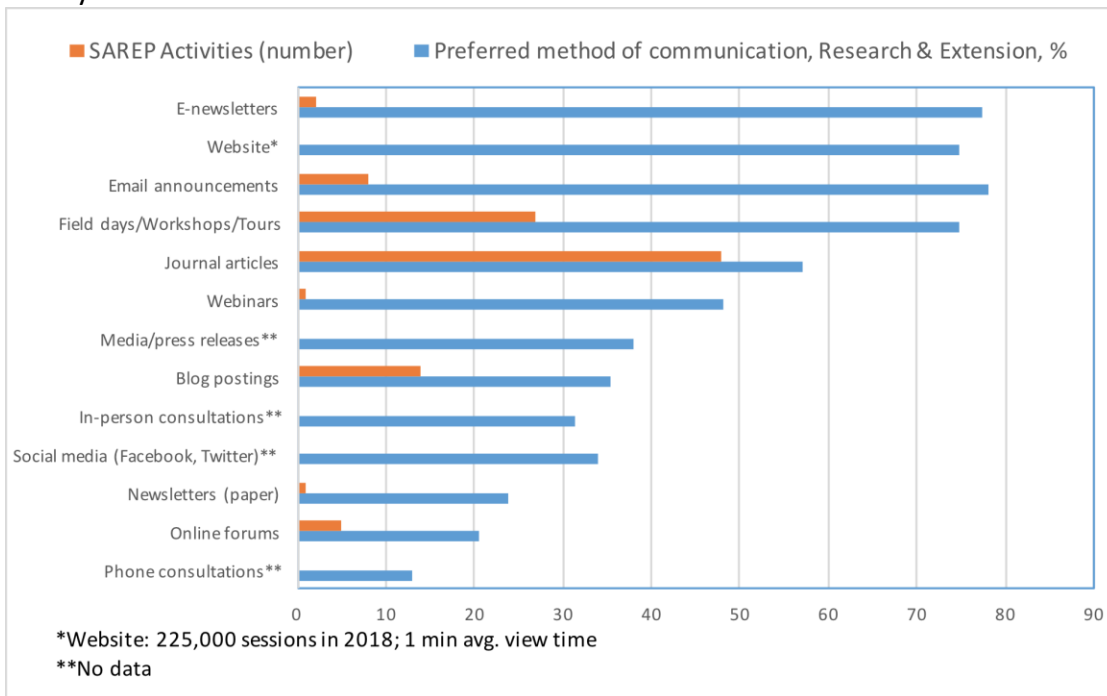


Figure 8. Types of information audience would like to receive from UC SAREP (2019 review survey).

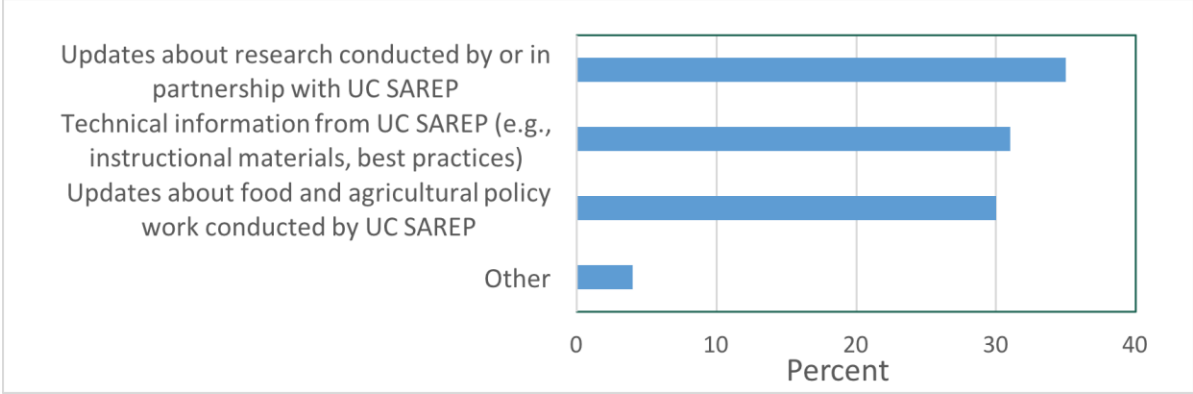
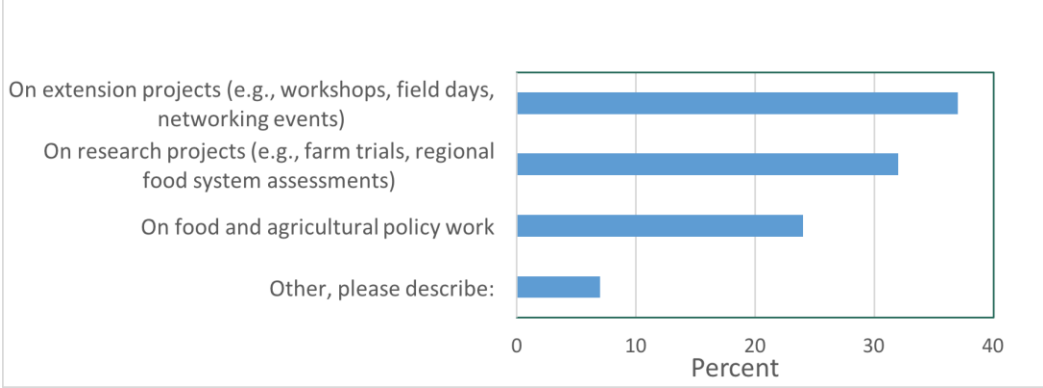


Figure 9. How audience would like to collaborate with UC SAREP in the future (2019 review survey).



7. Is the program clearly branded as UC ANR?

Response

UC SAREP generally brands its efforts and communications as UC ANR, but there are many areas for improvement. The ASI home page lists the five major programs which includes UC SAREP. The UC SAREP web page provides the details and states “Welcome to UC SAREP, a program of UC Agriculture and Natural Resources.” UC SAREP publications clearly indicate on the cover pages that they are part of the UC ANR.

Recommendations

7a. Ensure proper UC ANR and SAREP branding on all UC SAREP programs and outreach materials so that clientele recognize sources of information. With almost 90% of 2019 review survey respondents trusting UC SAREP’s information, this is an invaluable trademark to connect with audiences.

7b. UC SAREP needs to be clear in distinguishing itself from ASI and should have a set of clear materials that highlight UC SAREP’s role, rather than presenting it as a piece of ASI.

7c. When UC SAREP first appears in any communication it should be spelled out (i.e., Sustainable Agriculture Research and Education Program).

7d. There is a new UC ANR branding packet that UC SAREP should use as a reference.

7e. UC SAREP should strongly consider moving to the UC ANR SiteBuilder platform in order to align with most other UC ANR statewide program websites. One major benefit of this change is that UC SAREP would be able to take advantage of UC ANR’s “Make a Gift” icon (see also [Donate to UC ANR](#) webpage). UC ANR Development Services confirmed that it should be possible for donations made through this link to be deposited into one of UC SAREP’s existing accounts. Additional website improvements should include: link to UC ANR website, links to other UC ANR statewide programs, links to the [Healthy Soils](#) website, etc. Furthermore, on the ASI homepage, it is recommended that the identification of the program read: SAREP-UC ANR.

Narrative

While most of UC SAREP’s publications do identify UC ANR as the source, there were instances where the role of UC ANR was not clearly noted. In addition, there have been occasions when the respective roles of ASI and the units within ASI have not been clearly identified or branded. Finally, there are people who do not know the UC SAREP acronym. Branding has become an increasingly important aspect of recognizing and promoting institutional programs and initiatives. Implementation of effective and professional branding needs to consider the policies and practices within the University of California and more specifically within UC ANR and UC Davis.

Impact

8. Does the program effectively measure program outcomes, including changes in clientele practices and/or policy?

Response

UC SAREP has documented impacts in their program, but would benefit from developing metrics to more effectively measure outcomes over time and across projects and activities. The program would benefit from having a strategic plan that includes an evaluation plan to set program priorities relative to clientele needs and document outcomes and impacts relative to their program goals.

Recommendations

8b. As mentioned in recommendation 1b, develop an evaluation plan and system for collecting, analyzing, and sharing program outcomes and impacts, including changes in clientele knowledge, practices, and policy, that spans across individual grant-funded projects in order to identify longer-range outcomes, impacts, and ultimately condition changes and public values. The program could work with the UCCE Evaluation Specialist to develop an evaluation plan and metrics and methods for measuring outcomes.

8c. The program should regularly assess the short-, mid, and long-term impacts of its research and extension activities through diverse approaches including before-and-after activity surveys, involve producers and community members in survey development, and include metrics of audience perceptions and behavior changes.

Narrative

UC SAREP routinely conducts project evaluations as part of their outreach and extension projects for grant reporting purposes and to measure and document outcomes and impacts related to these projects. Much of UC SAREP's work has been evaluative in nature, supporting large scale syntheses, assessments, and policy-relevant analyses, as already described. Yet, it appears UC SAREP hasn't often turned the lens inward to measure outcomes and evaluate impacts across their own programs over time. One example in which ASI and SAREP did do this is their 2017 communications evaluation. It appears that more comprehensive evaluation measures would enable a more broad-brush view of outcomes across programs and time in order to help guide programs to meet clientele needs. In line with this set of recommendations, ASI and UC SAREP are already developing monitoring systems that will: 1) focus work on ASI's mission and priority goals, 2) guide adaptive management of their current projects and activities, 3) stimulate learning within their team and with their partners, and 4) provide evidence of ASI's impacts. Incorporating condition changes and public value statements as a 5th goal in their comprehensive evaluation measures would be advantageous. Furthermore, implementing the above recommendations specifically for UC SAREP would ensure program outcomes are effectively measured going forward and not subsumed within the larger ASI monitoring systems.

9. Does the program effectively communicate how its work contributes to UC ANR [condition changes](#) and [public values](#)?

Response

UC SAREP has documented that its work contributes to UC ANR condition changes and public values. Condition changes are an increasingly important way to communicate the long-term benefit of UC SAREP. With time, and focused attention to collection, tracking, and use of the condition changes and public values statements should enhance both internal and external communications.

Recommendations

9a. UC SAREP’s existing [Theory of Change](#) (logic model) should be updated to incorporate relevant condition changes and public values.

9b. Based on this updated Theory of Change, UC SAREP should identify a subset of condition change indicators and develop systems to collect, track, analyze, and communicate condition changes and public values as a result of their work—across program areas, project, and grant cycles (see also recommendation 1b).

9c. After UC SAREP revamps their communications plan, conducts needs assessments, and develops evaluation plans, then ensure that all of these elements speak to how their work contributes to condition changes and public value statements.

9d. UC SAREP may want to “repackage” key accomplishments from the past to be consistent with ANR’s new condition changes and public values.

9e. Personnel at all levels of UC SAREP, and especially the director, should work to become adept at using condition changes and public values going forward and maintain a clear grasp on the breadth and depth of activities UC SAREP is engaged with in order to communicate effectively about their public value.

9f. UC SAREP should update their website to clearly communicate UC ANR Public Values and Condition Changes.

Narrative

UC SAREP has demonstrated impact of their programs through condition changes and public values, as described in Question 3. To guide their work going forward, UC SAREP already has a robust and compelling [Theory of Change](#) logic model developed. This existing model should be updated to incorporate relevant condition changes and public value statements. UC SAREP should identify a subset of condition change indicators and begin to collect, track, and analyze these data going forward, across grant cycles, projects, and program areas. With time, skillful use of the condition changes and public

values statements may help improve both internal communication and accountability within the ANR network and enhance the effectiveness of their external communications.

Business Plan

10. Does the program have effective leadership and organizational structure to realize its mission and vision (including continuity plans)? Are roles and responsibilities appropriate and clear?

Response

The review committee initially struggled to discern and thus efficiently review UC SAREP activity. This suggests a need to refine and perhaps simplify the organizational structure as well as improve communication to client networks related to activity and budget so that UC SAREP's current role is accurately perceived.

UC SAREP is where it needs to be, under the umbrella of ASI, at UC Davis. UC SAREP is the primary extension component for ASI and the University; nothing else in ASI comes close to its role. UC SAREP provides the most direct means to reach campus-based faculty, which helps bring science-based solutions to communities. However, in the years since UC SAREP merged with ASI, UC SAREP has been aligning more closely with ASI programs and becoming less visible to farmers and ranchers. ASI's director, could strengthen the UC ANR/SAREP/ASI continuum by providing leadership in UC ANR programs.

Recommendations

10a. UC SAREP director should increase focus and attention to the needs and development of UC SAREP programs. The percent of time spent on UC SAREP should equal or come close to the 50% effort supported by ANR

10b. Increase the director's attention to engagement with UC ANR leadership in order to update and hone the 2005 MOU and increase commitment to the unit is success (see also recommendation 1c)

10c. Increase the director's engagement with UC ANR academic community focused on sustainability with the intention of developing increased collaborations.

10d. Narrow the focus of UC SAREP to emphasize extension activities that disseminate research developed by the vast ASI network and to foment collaborative research projects that combine and involve the expertise of UCCE academics, ASI academic affiliates, farmers, and ranchers.

10e. Review the staff to assess if their roles and skills are sufficiently focused on disseminating information and attracting resources needed to fulfill the diverse set of products sought by clientele.

10f. Refine and enhance investment in communications to align clientele expectations with activities and products.

Narrative

We recognize that the founding funding from the Legislature that allowed for grant-making for on-farm participatory research ended, greatly undermining the ability to deliver services expected by the organic and sustainable farming community and extension agents. This suggests the need to review mission, roles and staffing. According to position description of the UC SAREP Director, fundraising for the grants program is a responsibility and should be prioritized.

The UC SAREP/ASI Director has the intellect, perspective and passion to hold the required holistic vision of the food system. This is essential to engage an array of research agendas that meet actual contemporary needs for a diverse community of clients. He has successfully and appropriately broadened UC SAREP's agenda and greatly increased the network of institutional and industry allies needed to impact the system. However, the director may have insufficient focus on UC SAREP's development and/or staffing necessary to build the institutional capacity to meet the diverse array of activities that the mission requires. The director should be to emphasize attracting additional resources to UC SAREP's budget as a first step in rebuilding its capacity to extend research results involving more UCCE academics, that more directly and clearly benefit farmers and ranchers. Also, ASI academic affiliates can be more involved. Currently there are 32 affiliated academics, but less than 60% are engaged in research and outreach with SAREP, as determined by UC SAREP's bibliography.

11. Does the program have a plan for adequate financial sustainability and growth? And has it demonstrated progress on implementation (including effectively generating financial support)?

Response

It is unclear that UC SAREP has a financial sustainability and growth plan outside of ASI. The director and UC SAREP staff could work with UC ANR to develop a strategic fundraising plan for UC SAREP with clear fundraising goals and milestones, including bringing back the UC SAREP grants program. With this plan, the director would allocate a greater portion of his 50% ANR FTE to fundraise specifically for UC SAREP. This may include soliciting private donor contributions, endowments, and broadening fundraising efforts through competitive federal, state and private foundation grants. UC SAREP program leaders may also consider leveraging partnerships with ASI academic affiliates to jointly apply for grants with ASI academic affiliates including funding for UC SAREP extension activities.

Recommendations

11a. Pursue funding for a UC SAREP competitive grants program to facilitate more agricultural production research. UC SAREP's mandate in the 2005 MOU is, "Administer competitive grants for research on sustainable agricultural practices and systems." The director is responsible for, "Providing leadership and prioritization of and expanding funding for the SAREP competitive grants program." With Director Tomich's demonstrated skill in obtaining extramural funds (e.g. ASI fundraising) he could identify and secure funding sources for SAREP's grants program. Engage with UC ANR's Development Services, for available resources. Make sure that grant fundraising is part of a clear strategy and not a series of one-off opportunities (see also recommendation 3c).

11b. Financial sustainability and growth needs to be tied to crop science, and more academic leadership on crop production. Allocate resources for an agricultural scientist with expertise in soils, nutrients, water, or pest management that can help SAREP achieve its Food Production goals (see also recommendation 4b)

11c. Develop a strategic fundraising plan for UC SAREP with clear goals, benchmarks and timeline, including efforts to reinstate UC SAREP grants program. The director should dedicate a greater portion of his appointment, of which 50% is paid by UC ANR, to fundraise specifically for UC SAREP. This may include soliciting private donor contributions, and broadening fundraising efforts through competitive federal, state and private foundation grants. UC SAREP program leaders may also consider leveraging partnerships with ASI academic affiliates to jointly apply for grants with ASI academic affiliates including funding for UC SAREP extension activities.

11d. Develop a plan for leadership succession for the next decade, so that any change in UC SAREP's directorship will not cause the programmatic underpinnings of the program to falter.

11e. As mentioned in recommendation 1b, develop metrics for assessing the impact of programs (accountability and return on investment) to ensure continued financial support.

Narrative

As Director of SAREP, Director Tomich has the responsibility for: (1) developing and implementing short and long-term plans for integration of innovative research in agricultural sustainability on the ANR campuses (Davis, Berkeley and Riverside) and into Cooperative Extension programs throughout the state; (2) providing leadership and prioritization of, and expanding funding for, the SAREP competitive grants program; (3) providing statewide leadership for the distribution of information related to sustainability through conferences, short-courses, workshops, publications and on-farm demonstrations, and (4) providing leadership in communicating with stakeholders about sustainable systems.

UC SAREP has gotten away from how the program originally functioned prior to 2008, when it provided grants and conducted more on-farm research. Director Tomich said in interviews that it is challenging to raise endowment money for UC SAREP, it is all for ASI. The review committee has found that UC SAREP is not fulfilling all of its mandates and needs more money and staff. Fundraising is needed for on-farm research, including organic production. Some UCCE advisors have complained that there seems to be no strategy to UC SAREP's grant fundraising, that some grants are opportunistic and involve expertise that UC SAREP lacks, upon review of their CVs and academic backgrounds. The director should supervise this grant fundraising more closely and ensure that all grants are part of a well-defined strategy, as defined in his position description.

The farm to fork marketing work has been more successful at raising grant funds and hiring assistants than the agricultural production side of UC SAREP. There needs to be a better balance between the programs and more support for on-the-ground work with farmers. Effective financial planning for UC SAREP requires strong linkages to UC ANR and reaching out to diverse constituencies that can derive value from UC SAREP and help support programs.

12. Does the program clearly show budget sources and uses?

Response

UC SAREP's budget could be more clear and transparent to allow for a better understanding of resource allocations within the program. This includes percentage of time that the director, academic coordinators, and staff personnel are actually working on UC SAREP programs.

Recommendations

12a. There is potential to share more detail about how the ASI and grant money is spent to demonstrate how dependent UC SAREP and shared SAREP/ASI positions are on the grants.

12b. It would be essential for ASI to create a profit and loss statement indicating revenue for all programs included UC SAREP. This would enable reviewers to see expenses per line item next to each program. This would improve understanding of detailed allocation of ASI funding, staffing, and expenses for all programs and types products generated by each. Such a budget would allow a more thorough and helpful assessment of impact and return on investment.

Narrative

The review committee is concerned that UC SAREP does not receive the full benefits of time that UC ANR is paying for; more transparency in budget and percentage effort spent by director and staff could help shed light on this.

It is clear that ANR money is being used to pay salaries, but we don't have a lot of specifics, including the actual amount of time staff spend on UC SAREP programs versus ASI. UC ANR funding goes toward salary, but in grants recoup salaries and put salary savings into less fundable projects like social justice work. Fundraising seems to occur through ASI, but it is not possible to determine if the director is raising funds for SAREP or not. Through interviews, the director said he did not think he could raise money specifically for UC SAREP, however, the position description for the UC SAREP director says otherwise (as discussed in question 11).

UC SAREP's budget documents for 2018/19 shows UC ANR contributing 44%, Grants contributing 39%, ASI contributing 12%, and "other" contributing 5%. But another pie chart for \$1,608,016 shows ANR contributing 51%, Grants 43%, ASI 5%, and gifts 1%. The ASI budget rose from \$1.6 million in FY 07/08 to \$4.6 million in FY 18/19. Over the past 11 years the SAREP budget rose 72% in real terms, the ANR contribution to SAREP rose 16% in real terms, and the ASI budget rose 142% in real terms (FY 07/08 to FY 18/19). Clearly, fundraising at ASI and SAREP has outpaced ANR's contributions. This reality should spur some new thinking at ASI about how to fundraise for SAREP to ensure programs are meeting clientele needs.

Note: Question 13 is addressed in the Executive Summary

Program-Specific Questions

14. Does ASI structure add value to SAREP?

Response

Yes, ASI benefits UC SAREP, but there is further potential. ASI's umbrella structure ensures that SAREP is well-positioned to advance research and innovation, education and training, and outreach for the 21st century. Ties to affiliated programs (Russell Ranch, Student Farm, Food System Informatics, and INFAS), as well as ASI affiliated academics provide substantial opportunities for networking and collaborations. While the structure is sound, the visionary leadership for the program needs strengthening. The director, could strengthen UC ANR relationships, so UC ANR will better understand and recognize SAREP's value and capacity and more fully support and utilize SAREP's resources and programs. This includes the need for the director to identify strategies that contribute to SAREP's financial sustainability, especially in the grants program, to push sustainable agriculture research and outreach goals forward. The committee would like to see collaborations strengthened, and see UC SAREP take credit for its accomplishments.

Recommendations

14a. Review staffing to assess whether skills and tasks are aligned with need to ensure perception of UC SAREP's value to ASI, the university and California agriculture.

14b. Enhance focus on communications related to UC SAREP's activities that specifically targets extension agents.

14c. Enhance collaborative links between UCCE academics and UC SAREP staff through a team-building initiative (e.g., needs assessment referenced in recommendation 1a) that would generate a shared project.

Narrative

The background materials, Ripple Effect Mapping, statements from stakeholders and staff functional made very clear the financial value of UC SAREP to ASI. Yet, the perceived value of UC SAREP from important elements of the clientele appears less than it could and should be. This suggests the need for improved outreach, organizing, resource attraction and communication. This might also indicate the need for additional or enhanced skills for the UC SAREP team. The question of how to raise UC SAREP's profile is critical to the long-term viability of this ASI unit. The feedback from segments of the UCCE community reveals an opportunity to increase engagement. It is clear that cuts to Extension funding cause UCCE academics to be overtaxed, with little time to cover numerous demands. Thus, increased Extension engagement is challenging because incentive for collaboration are not easily identified other than funding. This suggests a need to work with Extension leadership to realign and re-inspire collaboration based on shared interests and pathways to enhancing impacts of both entities.

There are potentially numerous pathways, but there may be a need to define a single path that will be both inclusive and impactful. The revival of a UC SAREP competitive grants program could provide an appropriate and effective vehicle.

UC SAREP benefits from being based with ASI at UC Davis by having a network of resources for addressing critical needs in California's food systems (food and agricultural policy and sustainable agricultural production). There's a wealth of knowledge, information, and resources in ASI through multiple ASI-affiliated academics and programs (Food System Informatics, Inter-institutional Network for Food and Agriculture, Russell Ranch, and the Student Farm) for problem solving. ASI also hosts an incredibly strong and diverse external advisory board that SAREP benefits from to help bring in information on California issues, to help guide programs. ASI provides a home-base for SAREP in the heart of the UC Davis campus as well as communications and other administrative support.

ASI likewise benefits from UC SAREP by having greater access to communities throughout California through UC ANR programs that have a presence in every county in California. The deeply rooted connections of UC ANR and SAREP in local communities allow ASI affiliated academics, staff, and students, to learn about critical needs issues across the state and pool together resources and direct them towards developing solutions. This ASI/SAREP connection brings a lot of UC's power to communities, to help resolve problems at local and statewide levels, especially with the high degree of trust that SAREP holds by clientele, including UCCE colleagues.

UC SAREP is the primary extension component for ASI; nothing else in ASI comes close to this role in bringing science-based solutions to communities. However, in the years since UC SAREP merged with ASI, UC SAREP has been aligning more closely with ASI programs and becoming less visible to UC ANR programs and farmers and ranchers. This can be found upon a review of UC ANR websites; UC SAREP is not mentioned on Strategic Initiative websites; the Healthy Soils website is under UC ANR as mentioned earlier in this report; and UC SAREP is not an option on the UC ANR's "Donate to UC ANR" webpage. Director Tomich, as both UC SAREP director and ASI director, could strengthen the UC ANR/SAREP/ASI continuum by increasing connections and collaborations to help find solutions to critical issues. There's a tremendous need for information on farming sustainability to minimize environmental impacts and to improve the health and welfare of Californians and our natural resources. The director of UC SAREP has the responsibility for ensuring the program has the resources and people to make a difference.

15. Timing – Are publications impactful to communities waiting for them?

Response

UC SAREP scholarly publications are relevant and impact audiences within the academic community, however, to further increase impacts and reach a wider audience, UC SAREP should develop a strategy to increase its lay publications for practitioners. UC SAREP needs to prioritize audience interests and balance publication types produced to reach a wider and more diverse audience across California. UC SAREP's audience trusts the scientific credibility of their information; this gives UC SAREP a high capacity to reach people. Diversifying publications relative to audience needs, in a timely manner, will strengthen UC SAREP's program to be more relevant and impactful to communities.

Recommendations

No new recommendations. See recommendations 3e, 4d, 5b, and 6a-d.

Narrative

Between 2008 and 2018, UC SAREP personnel published 44 peer-reviewed articles, three books, three conference proceedings, and 12 book chapters. Several of these articles have been published in high impact professional journals, including the *Proceedings of the National Academy of Science*, *Ecology*, and *PLoS ONE*. UC SAREP personnel have also published numerous peer-review articles in regional journals such as *California Agriculture*.

The impact and recognition of the UC SAREP program among the scientific community are reflected in the number of times the PIs publications have been cited. A search conducted in ResearchGate on September 13, 2019, indicated that Director Tomich publications had been cited 3,735 times (RG score 31.26, higher than 90% of ResearchGate members), Academic Coordinator Feenstra publications have been cited 1,335 times (RG score 21.66, higher than 75% of ResearchGate members), and Academic Coordinator Brodt publications have been cited 824 times (RG score 22.74, higher than 77.5% of ResearchGate members). In accordance, 85% of the 2019 review survey participants agree or strongly agree with the statement "*I trust the scientific credibility of UC SAREP's resources/publications.*"

During the same period (2008-current) UC SAREP produced numerous outreach publications, available at the asi.ucdavis.edu/publications website. However, in activity pairing with Information preferred from UC SAREP's audience (Figure 10) and SAREP's publication outreach (Figure 11), UC SAREP is over representing audiences with journal articles and reports. Outreach needs to match audience interests, including more 'hands on' practical information, such as instructional materials and best management practices, to be more impactful for a wider audience throughout California. For example, UC SAREP could use peer-reviewed publications and reports as templates for factsheets or infographics, in English and Spanish, to outreach information to a wider audience.

Figure 10. Information preferred from UC SAREP's audience (2019 review survey).

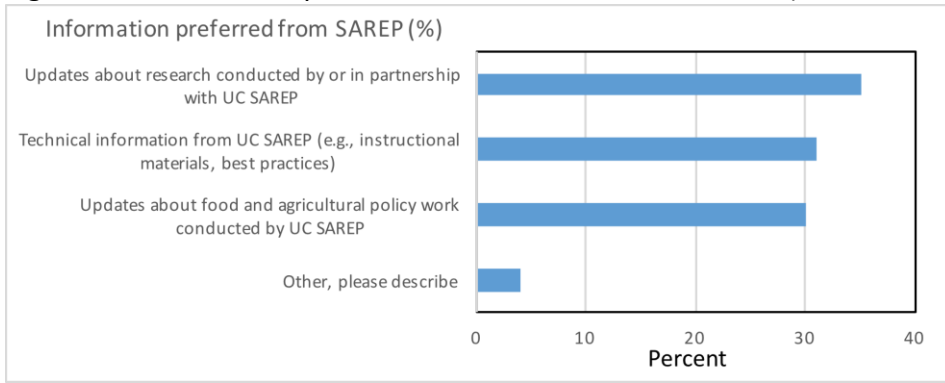
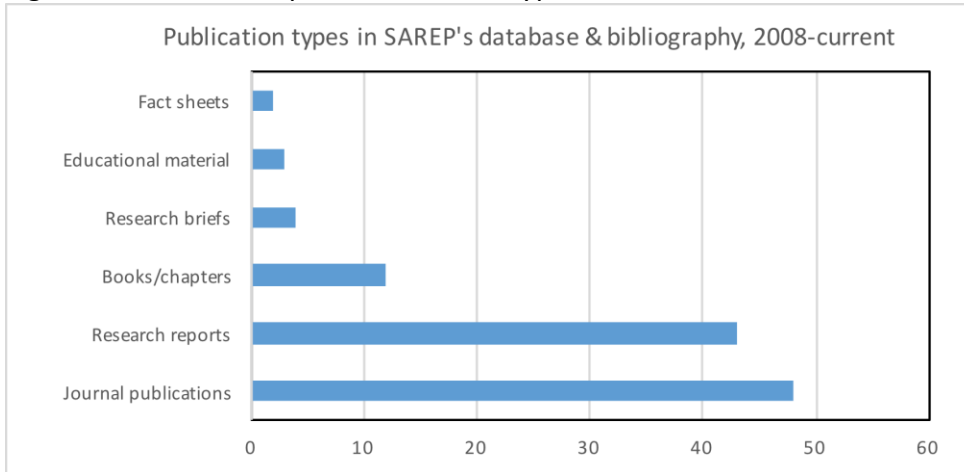


Figure 11. Number of publications and types in UC SAREP's database and bibliography, 2008-current.

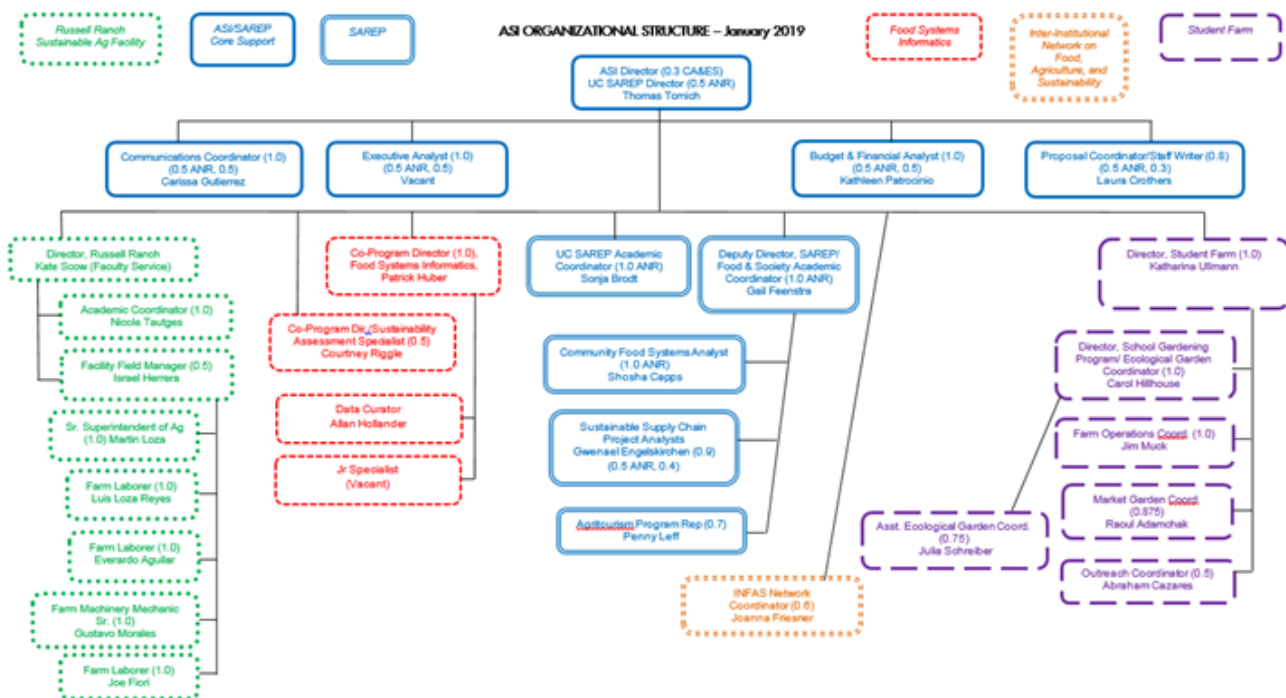


Conclusion

This review used information supplied directly from the program, interviews with UC SAREP and ASI employees, Ripple Effect Mapping with the review committee and stakeholders, and online surveys of clientele and stakeholders. The general sentiment of clientele and stakeholders is that UC SAREP is producing trustworthy and relevant work. Several opportunities have been identified throughout this report to improve engagement and extension/outreach with clientele, especially UCCE academics, and to balance efforts toward both of UC SAREP's agricultural production and food systems goals.

The committee appreciates the daunting task of creating and leading an entity dedicated to the sustainability of an extremely complex food system in an environment in which UC ANR funding has been cut and the competition for grant funding has grown much more competitive. Thus, we note and applaud the huge advances and progress related to local food systems, small farm marketing, food and environmental justice and urban agriculture that were underserved in the years prior to 2007.

Appendix A. Organizational chart for ASI, including UC SAREP

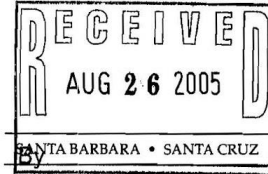


Appendix B. Memorandum of Understanding

Tx Jim
file

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OFFICE OF THE VICE PRESIDENT—
AGRICULTURE AND NATURAL RESOURCES

OFFICE OF THE PRESIDENT
Division of Agriculture and Natural Resources
1111 Franklin Street, 6th Floor
Oakland, California 94607-5200

August 22, 2005


DEAN NEAL K. VAN ALFEN
College of Agricultural and Environmental Sciences
Davis campus

Dear Neal:

Enclosed is a fully signed copy of the Memorandum of Understanding (MOU) between the Office of the Vice President, Agriculture and Natural Resources (ANR) and the College of Agricultural and Environmental Sciences (CAES), UC Davis concerning management of the ANR Sustainable Agriculture Research and Education Program (SAREP) in conjunction with the CAES Agricultural Sustainability Institute (ASI). As noted under paragraph 17. on page 3., this MOU becomes effective upon the appointment of the ASI/SAREP Director, and will be reviewed biennially thereafter to determine mutual agreement for continuation.

The original copy will be filed in the Office of the ANR Controller/Director of Business Services, as the official office of record for these documents.

We look forward to a mutually beneficial relationship between ASI and SAREP.

Sincerely,

Richard B. Standiford
Associate Vice President

Enclosure

- c: Controller/Director McGuire, w/original MOU
- Acting SAREP Director Roush
- Program Leader Norton

**Memorandum of Understanding
between the
Office of the Vice President
Agriculture and Natural Resources
and
The College of Agricultural and Environmental Sciences
University of California, Davis Campus**

Purpose of this Agreement

This Memorandum of Understanding (MOU) is between the Office of the Vice President, Agriculture and Natural Resources (ANR) and the College of Agricultural and Environmental Sciences (CAES), Davis Campus, concerning management of the ANR Sustainable Agriculture Research and Education Program (SAREP) in conjunction with the CAES Agricultural Sustainability Institute (ASI).

To best advance the similar and overlapping objectives of SAREP (Exhibit A) and the ASI (Exhibit B), ANR and CAES agree to recruit a single director for both programs. The terms of this agreement are described in following sections.

Terms of Agreement

It is mutually agreed between the parties:

Program Management Considerations

1. Under the terms of this MOU, the Dean of CAES accepts responsibility, on behalf of the Vice President -- ANR for management of SAREP, and will have authority for decisions related to administration, personnel, and internal budget of the program. The Dean may delegate this responsibility to the ASI/SAREP Director or another academic administrator within CAES. Major policy decisions by the CAES Dean and/or the ASI/SAREP Director will be made in consultation with the Office of the Vice President -- ANR and the ANR Program Leader.
 2. SAREP will be housed at UC Davis and will be affiliated with the ASI.
 3. ANR and CAES will collaborate in recruiting a high-profile Director to provide leadership and programmatic oversight for both SAREP and ASI.
 4. The Director will be appointed as a tenure-track faculty member in the CAES. The appointment will be as a Professor and _____ in the Agricultural Experiment Station at a level commensurate with the candidate's qualifications. Salary will be based on the standard professorial salary scale.
-

5. SAREP will remain a distinct unit, but overall leadership and day-to-day operations will be vested in the Director of ASI. The Director will consult with the ANR Program Leader for Agricultural Productivity on programmatic issues related to SAREP.
6. The Director will ensure a process for research prioritization and funding for the SAREP competitive grants program that is based on scientific merit, relevance to current problems, feasibility, and cost effectiveness.
7. The ANR Program Leader for Agricultural Productivity will have appropriate input to annual evaluations and merit/promotion actions of the Director. ANR has designated the Program Leader to serve as liaison between ANR and CAES and to be responsible for keeping ANR apprised of activities and progress of the program, as well as providing oversight.
8. The Director will develop and maintain liaison with faculty and appropriate stakeholders, as well as with the ANR Program Leader for Agricultural Productivity and other appropriate ANR administrators and staff.
9. The Director (in consultation with the ANR Program Leader when appropriate) will develop long-term plans for: (a) integration of innovative research, (b) design and implementation of a program for maintaining and expanding funding for grants programs, and (c) leadership and direction for SAREP and ASI outreach activities.
10. Every five years, the ANR Program Leader will conduct a program review of SAREP to ensure the mission and goals are being met and are in line with the current needs of the stakeholders.
11. Every five years, CAES will conduct a program review of ASI to ensure the missions and goals are being met and are in line with the current needs of the stakeholders.
12. ANR will provide assistance to the Director in strengthening regional, county, and campus support for SAREP and, as appropriate, ASI activities.
13. CAES will provide an annual report consisting of a work plan, detailed budget and financial report, and a summary of SAREP activities to the Office of the Vice President, ANR.

Resource Considerations

14. Fifty percent of the Director's salary will be provided by ANR in the SAREP permanent budget for the duration of this agreement. The remaining 50 percent of the salary will be provided by the CAES. Percent of effort dedicated to SAREP and to the ASI will be reviewed after two years to ensure that needs of each unit are being met, with any necessary adjustments to be made at that time. The ANR portion will be augmented as appropriate for annual range and merit adjustments related to the Director position.
15. ANR will provide all operating funds for support of SAREP in the SAREP permanent budget for the duration of this agreement based on a detailed budget submitted by CAES. This amount will be augmented as appropriate for annual range and merit adjustments related to permanently budgeted academic, staff and open positions. Funds available from vacant academic positions may be utilized by CAES for the benefit of SAREP in conformance with University policies. CAES will provide all operating funds for the ASI.
16. The Director's office and ASI support space will be provided by the CAES. ANR will provide space for SAREP support staff at the Hopkins Road facility.
17. The Director of ASI/SAREP will be responsible for the permanent SAREP budget maintained in ANR account L-5s19900 (State General Funds), account L-5419955 (State General Funds for Sustainable Agriculture), and others accounts, as appropriate. The Director is also responsible for all required budget proposals and reports.

Other Considerations

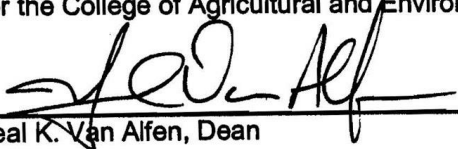
18. This MOU will become effective upon the appointment of the ASI/SAREP Director and will be reviewed biennially thereafter to determine mutual agreement for continuation.
19. This MOU terminates automatically if the Director resigns or is removed from the position. In the event the position is vacated, all ANR monies will revert to ANR at the end of the fiscal year and all CAES monies will remain in the College's base budget. If the position is refilled, a new MOU will be developed.
20. This management agreement may be terminated by either ANR or CAES if either party concludes after all reasonable good faith efforts that the objectives of SAREP or the ASI cannot be met within the joint plan of work outlined herein. Any decision by one party to terminate this agreement should be given in writing to the other party with reasonable lead time so that program employees may be given notice of their changing employment

conditions. If this agreement is terminated, the management responsibilities, authority, and budget for SAREP revert to the Office of the Vice President – ANR.

21. The Director and the Program Leader will keep the CAES Dean and the Vice President – ANR informed about all contacts with governmental agencies and NGO's pertinent to the program.
22. The Director and the Program Leader are responsible for attempting to resolve any disputes that may arise resulting from this MOU or the conduct of SAREP activities. If resolution is not possible at this level, the CAES Dean and the Associate Vice President – ANR shall next attempt to come to resolution. The Vice President – ANR has final authority with regard to all decisions concerning the management and funding of SAREP. The Dean of CAES has final authority with regard to all decisions concerning the management and funding of ASI.

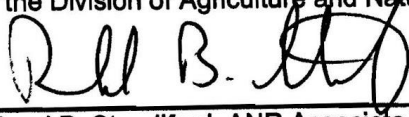
In Agreement:

For the College of Agricultural and Environmental Sciences, Davis Campus:



Neal K. Van Alfen, Dean 7/25/05
Date

For the Division of Agriculture and Natural Resources:



Richard B. Standiford, ANR Associate Vice President 8/15/05
Date

In Concurrence:



Maxwell Norton, ANR Program Leader for Agricultural Productivity 9/15/06
Date

Exhibit A
**Purpose and Mission of the ANR Sustainable Agriculture Research
and Education Program**

SAREP is a Statewide Program of the University of California, Agricultural and Natural Resources (ANR). The primary mission of SAREP is to provide leadership and support for scientific research and education in agricultural and food systems that are economically viable, conserve natural resources and biodiversity, and enhance the quality of life in the state's communities. SAREP serves farmers, farm workers, ranchers, researchers, educators, regulators, policy makers, industry professionals, consumers, and community organizations across the state. SAREP addresses concerns about the environmental impacts of agriculture, the health of rural communities, and the profitability of family farming operations in California.

SAREP has three mandates: (a) administer competitive grants for research on sustainable agricultural practices and systems, (b) develop and distribute information through publications and on-farm demonstrations, and (c) support long-term research in sustainable farming systems on UC farmlands. SAREP has two goals:

- To assist California farmers and ranchers in developing and implementing sustainable production and marketing systems; and
- To support California's rural and urban communities in understanding the concept and value of sustainable agriculture and participating in sustainable food and agricultural systems.

Exhibit B

Purpose and Mission of the CAES Agricultural Sustainability Institute

ASI is a program of the College of Agricultural and Environmental Sciences (CAES). The primary mission of the Institute is to address issues related to the long-term sustainability of agriculture. ASI will approach teaching, research and outreach from ecological, economic and social science perspectives. The Institute will serve the needs of all segments of agriculture across a diversity of scales and systems of production, and will address agricultural and natural resource issues affecting rural communities and the rural-urban interface. The Institute will have three primary foci: research, teaching and outreach.

The research function of ASI will focus on integrative, interdisciplinary approaches by facilitating the creation of and support of teams to address broad issues related to sustainability. The college's LTRAS and SAFS projects (now combined into the Center for Integrated Farming Systems) will play a major role in the activities of ASI.

In conjunction with the formation of the ASI, faculty in CAES will be developing a sustainable agriculture curriculum. The ASI will provide expanded opportunities for experiential learning by students. The Student Farm will play an important and expanding role in this area, and in an undergraduate major under development.

Outreach programs will serve a diverse clientele, including constituencies such as agricultural labor and rural communities as well as a broad range of agricultural producers. Outreach efforts will also involve existing infrastructure and personnel within UC units, for example, Research and Information Centers, Cooperative Extension and ANR Statewide programs such as SAREP.

The goals of the Institute are:

- To identify the principles and practices which contribute to sustainability of agricultural and natural resource systems.
- To educate students in those principles and practices, exposing them to a variety of viewpoints on questions that remain controversial.
- To disseminate research-based information that will assist farmers and ranchers in improving the sustainability of agriculture and natural resources.
- To assist California's rural and urban communities and policy makers in understanding and implementing sustainable food and agricultural systems and natural resource management.
- To establish communication channels that will permit a meaningful role for stakeholders in identifying and helping to find solutions to problems relating to sustainability.

Appendix C - Interview Protocols.

UC SAREP Review Committee Meeting #2

Interviews and Ripple Effect Mapping

June 11, 2019

Agenda

When	What
9:30	<i>Sacramento Valley conference room available for coffee and snacks</i>
10:00	Committee interviews ASI/SAREP Director Tom Tomich
10:40	Transition / Break
10:45	Committee interviews SAREP employees Sonja Brodt, Gwenael Engelskirchen, and Penny Leff (group interview)
11:25	Transition / Break
11:30	Committee interviews ASI (non-SAREP) employees Joanna Friesner, Carol Hillhouse, and Nicole Tautges (group interview)
12:10	Lunch (all interviewees, Ripple Effect Mapping participants, and review committee)
12:40	Thank interviewees for their time and participation / Transition (Tom Tomich, Sonja Brodt, and Joanna Friesner stay, all other ASI and SAREP team members are dismissed)

SAREP/ASI Director Interview Questions

Interview process:

- Rachael Long and Kit Alviz kick off each interview with brief introductions and brief background as needed. Jennifer Caron-Sale records detailed notes.
- Each review committee member asks at least one question.
 - o Personalize the talking points provided to transition between groups of questions.
 - o Ask additional probing questions if you feel any question is not being answered as intended. However, please be aware that SAREP and ASI employees have received the questions below, so if you ask anything new, they may not be prepared for a response. Try to stick to the main intent of the questions.
- Each interview is 40 minutes. If a question is not answered, the committee may ask the interviewee to provide a written response later.

Brief introductions

FOCUS & IMPACT – Thank Tom for providing background material. Rachael reviews mission/goals from website and materials provided. We’d like to dive right into questions that we weren’t able to read about.

1. In your opinion, what are SAREP’s key successes in the last 10 years relative to its goals? Describe up to three examples. It would be especially helpful if you shared examples that would help the committee better understand the delineation between SAREP’s work and achievements vs. ASI’s.

PROGRAM SPECIFIC QUESTIONS – The next couple questions are about the ASI structure and its relationship to SAREP.

2. In what ways does the ASI umbrella structure add value to SAREP? And vice versa? Describe with examples.
3. In what ways is SAREP leveraging support from ASI to meet SAREP’s mission? And vice versa? Describe with examples.

BUSINESS PLAN – We’d like to know more about your thoughts on SAREP’s leadership structure and plans for growth.

4. Does the program have effective leadership, organizational structure, and resources to realize its “food and society” and “agriculture, resources, and the environment” goals. Provide examples.
5. Describe any continuity plans for ongoing operations (funding, staff).
6. How has fundraising impacted and informed SAREP’s work?

REACH – The next questions are about SAREP’s communications efforts and partnerships.

7. The committee received a lot of information about ASI's communications effort (page 29 of UC SAREP Data Request Report) and would like more clarification about why they were included. Please describe why this communications effort relates to SAREP's impacts. Why has external communications been a priority and what has been the result of this focused attention?

8. What key non-UC partnerships are vital to the work of SAREP and why?

OVERARCHING –

9. What could help strengthen the work and visibility of SAREP and make SAREP stronger?

10. What would be lost if SAREP didn't exist? Define how SAREP adds value to UC ANR, Californian's, and our nation.

SAREP Employee Interview Questions

Interview process:

- Rachael Long and Kit Alviz kick off each interview with brief introductions and brief background. Jennifer Caron-Sale records detailed notes.
- Each review committee member asks at least one question.
 - o Personalize the talking points provided to transition between groups of questions.
 - o Ask additional probing questions if you feel any question is not being answered as intended. However, please be aware that SAREP and ASI employees have received the questions below, so if you ask anything new, they may not be prepared for a response. Try to stick to the main intent of the questions.
- Each interview is 40 minutes. If a question is not answered, the committee may ask the interviewee to provide a written response later.

Brief introductions - Share your understanding of SAREP's mission and how your work fits into SAREP's mission/goals.

FOCUS – Thank SAREP employees for their participation in providing background documents to the committee. We'd like to dive into questions we weren't able to read about. Our first questions are about SAREP's focus, identification and prioritization of needs, and mission.

1. How does SAREP assess critical needs and get input from stakeholders for SAREP program planning? *Probing questions:*
 - a. *Has SAREP done a formal needs assessment? If so, what were the results?*
 - b. *What's SAREP's highest priority and what are the barriers/challenges to pursuing it?*

PROGRAM SPECIFIC QUESTIONS – The committee would like to better understand SAREP's work and achievements that are distinct from the ASI umbrella, as well as your thoughts on how the ASI umbrella and SAREP support and add value to each other.

2. Provide up to three examples (total) that would help the committee better understand the delineation between SAREP's work and achievements vs. ASI's.
3. In what ways does SAREP collaborate with other ASI programs? What impacts do those programs have on SAREP? Please give specific examples.
4. In what ways does SAREP leverage support (e.g., resources) from ASI to meet SAREP's mission? And vice versa? Please provide examples.
5. In what ways does the ASI umbrella structure add value to SAREP? And vice versa?

CONNECTIONS (internal) – We'd like to know more about changes and challenges regarding internal UC ANR collaborations.

6. How have your collaborations and interactions with CE Advisors changed in the last 10 years? What, if any, challenges do you face in collaborating with others in ANR?
7. How is UC SAREP similar to and different from the small farms program, and has the loss of funding for that program impacted SAREP's work and mission?

REACH (external) – The background documents provided informed the committee of SAREP's geographic reach, collaborations in 27 counties, and electronic outreach methods.

8. What could help strengthen the work, reach, and visibility of SAREP?

IMPACT - Some of SAREP's outcomes and impacts have been described in Tom's PDF presentation. We'd like to know more.

9. How are you measuring outcomes (e.g., knowledge and behavior changes) and impacts (changes in condition such as improved profitability and sustainability of farms and improvements in healthy food access) of your program? *Probing questions:*
 - a. *How would you like to be measuring additional outcomes?*

ASI Employee Interview Questions

Interview process:

- Rachael Long and Kit Alviz kick off each interview with brief introductions and brief background. Jennifer Caron-Sale records detailed notes.
- Each review committee member asks at least one question.
 - o Personalize the talking points provided to transition between groups of questions.
 - o Ask additional probing questions if you feel any question is not being answered as intended. However, please be aware that SAREP and ASI employees have received the questions below, so if you ask anything new, they may not be prepared for a response. Try to stick to the main intent of the questions.
- Each interview is 40 minutes. If a question is not answered, the committee may ask the interviewee to provide a written response later.

Brief introductions

We would like to better understand the relationship between SAREP and the ASI umbrella structure, as well as the delineation between SAREP and ASI's work.

1. How is SAREP collaborating with ASI Russell Ranch, UCD Student Farm, and the Inter-institutional Network for Food, Agriculture and Sustainability to achieve SAREP's mission? What impacts do other ASI programs have on SAREP's programs, and/or vice versa? Please provide 1-2 examples per person, or up to 6 total examples.
2. In what ways is the ASI umbrella leveraging support (e.g., resources) from SAREP to meet ASI's mission?
 - a. If you cannot answer this on behalf of the ASI umbrella, consider the alternative question: In what ways is your program leveraging support from SAREP to meet your program's mission?
3. [Vice versa of previous question] In what ways does SAREP leverage support (e.g., resources) from the ASI umbrella (or your particular program) to meet SAREP's mission?
4. In what ways does the ASI umbrella structure add value to SAREP?
5. In what ways does SAREP add value to the ASI umbrella? What would be lost if SAREP didn't exist?

Appendix D – Ripple Effect Map (table only for easier reading)

#	THEME	PERSON SHARING THE RIPPLE	ACTION/ ACTIVITY	LEARNING/ ATTITUDE / SKILLS OUTCOME	BEHAVIOR OUTCOME	FURTHER BEHAVIOR CHANGE RIPPLE	POLICY CHANGE
2	Environmental	Amelie Gaudin	<p>Amelie is the PI for an ongoing project on orchard recycling funded by almond board. Sonja is a key member of the 10 person interdisciplinary team. The goal is to understand how grinding up of trees improves sustainability of orchard. SAREP catalyzed the outreach by surveying growers to identify barriers to adoption, developing a website and fact sheets. SAREP set up opportunities for presenters to present. SAREP did fact sheets, talked to members, synthesized information in non-jargon way.</p> <p>The project comes from the CARB greenhouse gas fund, so the project must demonstrate that there is carbon capture.</p>	<p>Knowledge gained by growers, is moving them to a new system to make conditions better.</p>	<p>As a result of growers adopting practices: There is a measured increase of 8 tons/hectare of carbon sequestered over 10 years. There is also a 37% increase in water retention with no drop in yields, and after 10 years, yields begin to increase.</p>	<p>Almond Board was motivated by results of first project to invest more money for 2nd study on how to ensure there is enough Nitrogen in the soil to break everything up.</p>	<p>Impact on policy-makers- The CDFA Healthy Soils Program is being influenced by it, because it provides one possibility for a proven, effective methodology to improve soil health.</p>

#	THEME	PERSON SHARING THE RIPPLE	ACTION/ ACTIVITY	LEARNING/ ATTITUDE / SKILLS OUTCOME	BEHAVIOR OUTCOME	FURTHER BEHAVIOR CHANGE RIPPLE	POLICY CHANGE
3	Economic	Clare Gupta (Micahel and Thomas Nelson or Jennifer Sowerwine too?)	Clare was a PI for a massive study and report on Food Policy Councils. SAREP (Gail and Shosha) instrumental in grounding information so it was applicable to communities, helping identify collaborators, developing interview questions, and assisting with technical report development. They kept the project from being too theoretical and academic, and instead focused on useful questions. Gail was able to leverage connections from her food systems study in Kern county. Effective practices for food councils were shared at different convenings	Increased awareness of Food Policy Councils for ANR and external audiences. SAREP- able to bring it to national level as a result of Gail's connection to John's Hopkins. Helped amplify statewide work at national level. Communicated information through Journal of Agriculture Food Systems and Community Development. Rose Hayden Smith- blogged about it, and made front page of ANR website	Regional food policy assessments are becoming annual and the 8 most powerful food councils in the state have participated. More councils are joining the network and several councils have expressed interest in having SAREP come in.	The same grant provided Roots of Change with money to help convene people. Were doing work on policy that became law. Chance for different counsels to coalesce learning.	
4	Social	Julia Van Soelen Kim	Julia is an advisor in 4 counties and sits on 4 food policy councils. Connections with SAREP, helped her work on 4 councils to connect with statewide research project that connected to national research project, broadening the reach of the research.	SAREP helps county based farm advisors make statewide and national connections that might not otherwise happen for a county based person.	4 food policy councils are informally leveraging findings.		Formally- working on change in knowledge and awareness of statewide food policy councils.

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5	Environmental/Social	Gail Feenstra	Gail and Shosha worked on food system assessments for Kern Food Policy Council. Unsure how to extend preliminary data related to agricultural chemicals, so met with CE colleagues.	CE and SAREP colleagues gained understanding of each other's perspectives, and came to agreement on how to frame report.	CE academics shared commodity contacts who had sustainability plans. Assessment plan has been posted on website, and used by others who saw it posted.	Created a bridge between the food policy council and people working agriculture	
6	Economic	Dave Runsten	CAFF helped get SAREP off the ground and funded. SAREP help and assistance to position CAFF to assist farmers to meet needs in local markets and how to sell to whole sale food market. Help farmers get exposure to what their markets would be. Now act as intermediaries between farmers and schools like Ben Thomas' programs. SAREP helped create network and type of activity, so can provide examples to reps (proof of concept of what can be done). SAREP role- using research knowledge and implanting it in new and emerging model of food hubs. Research would be baseline and progress. SAREP- were able to provide more materials that were research based.	Run program that keeps expanding, due to collaboration with SAREP and Gail's program. SAREP's role led to information gained that might not have otherwise happened.	Buyers that were visited started buying Cook Co., Clover Leaf Farm sold to Cook. There are other examples.		Trying to introduce bill in congress to allow more geographic preference. Co-sponsored by Josh Harder from Turloc. Agreed to support bill. There are a dozen school districts in his district part of network that do this, and identified a half dozen farms in district selling to local schools.

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7	Social	Joanna Friesner (And Fabian Menalld)	Joanna co-founded a social equity committee within ASI. Sonja contributed by developing a checklist that takes into account equalizing partners.	As a result, there was an ASI- wide social equity assessment. Working relationships strengthened. Sonja and Gail thought about ways to incorporate social equity into their work.	Sonja and Gail adopted ways to incorporate social equity into their work. They adopted social equity monitoring mechanisms and inclusive practices. UC ANR gave temporary funding to SAREP support staff to focus on social equity internally. The Collaborative Tools work group around diversity equity and inclusion has been revived as a result of workshop, so people can continue to communicate about practices	Sonja sparked internal discussion within western SARE which are ongoing. From infast ?, ASI to SAREP. Sonja having voice with western SARE. Bringing forth social inequality. Western SARE providing funding for an upcoming training for ANR.	
8	Economic	Michael Dimock	Study done by nutrition team and Shermaine Hardesty- small farm on local products sold at farmers market. Roots of Change asked SAREP to educate farmers- value of local vs. imported products. Shermaine PI (Gail co-pi doing qualitative interviews with farmers)	SAREP communicated to Food policy council		Led to a grant program that gave low income households coupons to use at farmers markets to double their purchasing power.	Data used in white paper and testimony presented by Gail became rationale for bill that passed in California. Up to \$37 million in matching grants (so far \$15 million matched) to provide to low income households

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							coupons to buy food at farmers markets.
9	Environmental/ Social	Rachael Long	Working with SAREP staff, going out in the field. Staff were experienced and had institutional knowledge and memory that they shared. Incredible knowledge with SAREP and connected to ASI.SAREP had the ability to create a bigger picture point of view.	Reframing about how she thought about pest management. Instead of microlevel, but thinking about entire landscape influence on beneficial and pest insects.	Research now takes that approach. Beyond that-networking, engaging students to engage in projects. Have worked with a number of students have mentored them and they have done internships. Have further extended information from SAREP.		
10	Environmental	Sonja Brodt	Led California N assessment project. Review of field, and new knowledge. Shared findings. Held Workshop in central valley to share results. Presentations from farm advisors, panel discussions.	Contentious issue. Farmer/Board member: "We can fix this problem". Science had direct impact on farmer being willing to take responsibility. Led to relationship building. Issue wasn't that science was ground	Can draw a straight line from N study early meetings to a regulatory framework: Central Valley SALTS (Salinity Alternatives for Long-Term Sustainability) - umbrella organization-basin plan amendments prescribe what people can do if impacting		Thursday Budget will be signed by Governor, including \$130 million per year to help solve drinking water problem in state. Driven around relationship that convened Ag and env communities building relationships, understanding issues.

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				breaking issue. Convening of relationships a place to talk about neutral science and discussions that resulted in actual solutions being applied.	groundwater and practices to impact less over time.		Help farmers comply. On complex issues multiple institutions, but SAREP's work has been part of the mix.
1	Economic/ Environmental/ Social	Jennifer Sowerwine	SAREP project Gwenael mentioned about Food hub network. She facilitated it the last 4 years. Started with 8, now over 20. Food hubs source from about 30-40 small farms. Effectively trying to find markets for smaller farms who might struggle to access markets on their own.	Convenings enable information sharing, inspiration to learn from others, share out challenges and strategies to overcome challenges.	Convening might not seem like a direct impact, but a lot going on in terms of ideas to put into practice. Recent food hub network summit, brought dining services from 8 campuses, and Cal State campuses and UCOP. All working on securing procurement of locally grown food from food hubs	Hubs are enabling farmers to access large buyers like UC dining. Interest from campuses to purchase from food hubs. Consistent with UC's food and society work. Helps UCOP achieve their sustainability goals. UCB, UC Davis Med Center, UCD working on it.	
1	Economic	Gail Feenstra	Did a survey of food service directors and whether or not they knew about food hubs. As part of a grant, set up farm to school community extension hubs.		K-12 schools in 3 school districts (Oakland, Winters, Redding) increased their local food procurement as a result.		

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13	Social	Thomas Nelson	One challenge over the years- food safety- SAREP secured grant to do food safety training for farmers and food hubs and institutional knowledge from specialist Erin Dicaprio.	Definitely an increase in knowledge of managers to increase practice of protocols. SAREP key intermediary for food hubs to be aware of food policies- and help get them to tools and resources they need to be in compliance with regulations.	Direct impact PCQI certification. A number of food hub managers are now certified.	Led to joint project CAFF has with Sonoma county FEED Sonoma- food hub to help people get certified and feed people locally. In progress.	
14	Environmental	Tim Johnson	Through existing connections between Rice Commodity Board, ASI and ANR Rice Advisor, SAREP approached the Rice Board requesting to do a life cycle study of green house gases.	SAREP's collaboration and study broadened the Rice Commodity Board's perspective beyond production ag. Normally just worked with rice advisor on agronomy, but was approached by SAREP to do study. Ag and env groups tend to have antagonistic relationship. helped convene and bring people together. Helped solve problems that were un-overcome-able. Life cycle assessment of rice- validates work of other CE scientists- can show where key impact			

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				is coming from and helps prioritize work of ANR colleagues.			
15	Environmental/ Social	Alissa Kendall	Worked with ASI/SAREP, specifically Tom and Sonja, on various life cycle assessment projects such as conducting research, developing a webpage that ASI/SAREP, presenting talk at a nutrition conference, and publishing research findings.		Collaborating with Sonja created connections that never happened before. Companies have reached out to her and asked her to do research for them. Almond industry has used research findings in their advertisements. Bioenergy industry contacts her about innovating around the use of byproducts like almond hulls.	There is definitely policy relevance. Growers care because It is a way to reduce their costs. Government and agencies care because they see the climate change mitigation.	
16	Social	D'artagnan Souza	Work Directly with SAREP academics through Advisory Board	Used information learned through interactions with UC SAREP when presenting	SAREP builds connections with people who are then able to		

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				at National Urban Extension Conference in Seattle	advocate for urban agriculture		
17	Social	D'artagnan Souza	Through the Social Justice Learning Institute, working on urban agriculture and food production with young people. Applied for grant jointly with ASI which led to food system tours by youth.		Students who participated were able to demonstrate leadership with a host of stakeholders centered in LA as well as people interested food systems work.	Tours brought in new partners, and deepened relationships	
18	Social	Keir Johnson	Part of the ASI advisory board. Connected an intern that had worked with Intertribal Agricultural Council before as an intern to an internship with SAREP.		This led to a new research opportunity and stipend for the youth. The internship will start in July, but the intent is that SAREP will benefit by the intern's work in doing research on key points of consideration that can be included in extension materials.	This experience has shown that SAREP has the ability to take in new idea and turn them into opportunities, which include research opportunities for youth in underserved communities and extension opportunities that include tribal communities input and cultural context.	

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19	Environmental	Margaret Lloyd	Utilized SAREP's cover crop database to develop an organic nitrogen budget and extension materials.	Delivered the information through workshops to over 250 people and through one-on-one technical assistance to about 30 people.	5-10 people that received the information have informally talked to Margaret and mentioned that they changed the way they think about nitrogen and have changed their nitrogen budget. These outcomes lead to helping farmers with complying with new California nitrogen regulations, reducing input costs for organic farmers, and lastly, better projections of available Nitrogen that will be become available. Aligns with PVS about environment the most.		
20	Environmental	Rich Rominger	SAREP's work in organic agriculture and healthy soils		SAREP broke the ice and got people interested in organic agriculture and healthy soils programs	Led to organizations like CDFA and DPR providing funding for projects for healthy soils, improved groundwater quality, and	

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21	Economic/ Environmental	Scott Park	As an organic farmer, I collaborate with UC SAREP to help UC SAREP gain insight and information on grower techniques and being less chemical driven. UC SAREP's sustainable ag outreach usually just confirms what I already know, but It is important to get the information out to other farmers about farm impact on the environment.	UC SAREP is one of many resources I use to get specific information to inform my systems approach to sustainable farming. I might get information on cover crops, soil types, irrigation systems. It is hard to say specifically what I got from UC SAREP; It is kind of a blur when there is so much going on on my farm.	I developed a pretty good system so the common issues that farmers who dabble in organic farming experience are practically nonexistent on my farm. I enjoy it and getting unbelievable results from an organic system that is working. Not going broke on it.	If your system is better than the year before, then you're having positive effect in the environment. It is important since soil's a natural resource	

Appendices E – Online Survey Report

UC SAREP Review - Stakeholder Survey Aug 2-16, 2019

Response Rate

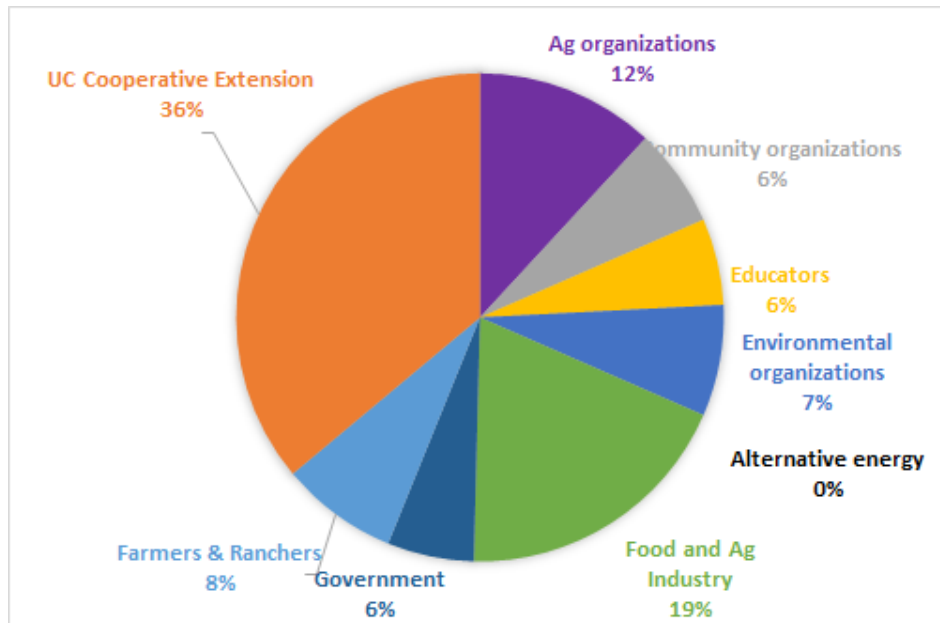
The UC SAREP stakeholder survey was successfully sent to 1,661 individuals and 119 emails failed to be delivered. The invitees included a subset of ASI’s mailing list and all UCCE’s academics. Of the 1,540 individuals who received the survey, 87 or 5.6% declined to participate for reasons listed in the table below. Two hundred and twenty-five individuals responded to the survey; a **response rate was 14.6%**.

Reasons for declining participation	#
Decline - I am not familiar with UC SAREP	34
Decline - I have not worked with UC SAREP or used their materials in the last 10 years	45
Decline - Other reason:	8
Grand Total	87

Response Rate and Declines by Affiliation

Affiliations were already assigned by ASI. Some were assigned multiple affiliations, thus the “total sent” is greater than 1661. The table and pie chart below show the breakdown of respondents by audience category, with UCCE comprising of the largest percentage of respondents.

Affiliation	Total valid responses (responded to 1+ survey questions)	% of total responses
Ag organizations	29	12%
Alternative energy	0	0%
Community organizations	16	7%
Educators	14	6%
Environmental organizations	18	7%
Food and ag industry	46	19%
Government	14	6%
Producers	19	8%
UC Cooperative Extension	88	36%
Total (some individuals were pre-assigned multiple categories, which is why total is >225)	244	100%



The table below further describes the response rate by each affiliation group, i.e., 14% of 225 individuals affiliated ag organizations responded to the survey. UCCE also had the highest response rate by group.

Affiliation	Total sent	Total valid responses (responded to 1+ survey questions)	% response rate by group
Ag organizations	252	29	12%
Alternative energy	38	0	0%
Community organizations	199	16	8%
Educators	143	14	10%
Environmental organizations	240	18	8%
Food and ag industry	458	46	10%
Government	186	14	8%
Producers	208	19	9%
UC Coop. Extension	341	88	26%

The committee wanted to further understand declines by affiliation, presented in the table below. Again, UCCE had the highest number of declines.

Affiliation	Total sent	Total declines	% declines by group
Ag organizations	252	5	2%
Alternative energy	38	0	0%
Community organizations	199	3	2%
Educators	143	5	3%
Environmental organizations	240	9	4%
Food and ag industry	458	12	3%
Government	186	0	0%
Producers	208	4	2%
UC Cooperative Extension	341	52	15%

Response Rate of Critical Stakeholder Group

A list of critical stakeholders was identified by committee members and consisted of 27 individuals; 19 or 70% responded to survey (some questions omitted). Critical stakeholder responses were not analyzed separately or considered separately from other respondents. The purpose of the critical stakeholder group was to ensure participation of individuals from groups who may be under-represented. Committee members identified people that they knew from these groups and provided personalized follow-up to promote participation.

Q1 - How do you view SAREP’s credibility, relevance, and communication efforts?

Select one response that describes your agreement with each statement. This question has been adapted from the Agricultural Sustainability Institute's Communication Evaluation to be specifically about UC SAREP's efforts.

Question	Strongly disagree		Disagree		Neither agree nor disagree		Agree		Strongly agree		Not sure, not applicable, or missing		Total
a. UC SAREP's work is relevant to my life	1.33%	3	5.78%	13	14.7%	33	44.44%	100	29.33%	66	4.4%	10	225
b. I trust the scientific credibility of UC SAREP's resources/publications	0.4%	1	4.0%	9	7.1%	16	36%	81	49.8%	112	2.7%	6	225
c. UC SAREP's work promotes dialogue	0.4%	1	3.1%	7	17.8%	40	43.1%	97	25.3%	57	10.2%	23	225
d. UC SAREP seeks out people's needs/opinions and takes them into consideration in project development	2.7%	6	7.1%	16	18.7%	42	39.6%	89	18.7%	42	13.3%	30	225
e. UC SAREP's research and education priorities are driven by the needs of the people working in the fields of/impacted by food and agriculture	3.10%	7	8.4%	19	12.9%	29	40.0%	90	27.1%	61	8.4%	19	225
f. UC SAREP's research activities are relevant/useful to my work	2.2%	5	7.6%	17	16.4%	37	35.6%	80	31.1%	70	7.1%	16	225
g. UC SAREP's extension activities (e.g., educational outreach) are relevant/useful to my work	1.8%	4	8.0%	18	16.4%	37	30.7%	69	32.0%	72	11.1%	25	225
h. I receive information about UC SAREP's research findings in a timely manner	6.22	14	16.0%	36	24.9%	56	28.4%	64	15.1%	34	9.3%	21	225

Means (Strongly disagree =1, somewhat disagree =2, neither =3, somewhat agree =4, strongly agree =5, not sure or N/A = omitted)

Question	Mean	Standard deviation
a. UC SAREP's work is relevant to my life	3.99	0.912
b. I trust the scientific credibility of UC SAREP's resources/publications	4.34	0.822
c. UC SAREP's work promotes dialogue	4.00	0.816
d. UC SAREP seeks out people's needs/opinions and takes them into consideration in project development	3.74	0.987
e. UC SAREP's research and education priorities are driven by the needs of the people working in the fields of/impacted by food and agriculture	3.87	1.049
f. UC SAREP's research activities are relevant/useful to my work	3.92	1.026
g. UC SAREP's extension activities (e.g., educational outreach) are relevant/useful to my work	3.94	1.042
h. I receive information about UC SAREP's research findings in a timely manner	3.33	1.152

Q2 - The strategies below are listed in UC SAREP's Theory of Change (slightly adapted for the survey). Please share your opinion on every strategy. Are these the strategies that UC SAREP should employ to address critical needs in California? Select one response that describes your level of agreement.

Question	Strongly disagree		Somewhat disagree		Neither agree nor disagree		Somewhat agree		Strongly agree		Not sure, not applicable, or missing		Total
a. Engage food and farming sector in research design, implementation, and dissemination of results	1.8%	4	2.2%	5	7.6%	17	16.9%	38	63.1%	142	8.4%	19	225
b. Support farmers in accessing markets for sustainable products	1.8%	4	4.4%	10	8.0%	18	28.9%	65	47.6%	107	9.3%	21	225
c. Conduct farmer-buyer networking events	2.2%	5	11.1%	25	24.4%	55	24.0%	56	24.9%	56	13.3%	30	225
d. Evaluate and communicate value of ecosystem services	1.8%	4	1.3%	3	8.4%	19	24.90%	56	55.1%	124	8.4%	19	225
e. Evaluate and communicate true cost of food	1.3%	3	3.1%	7	10.7%	24	19.6%	44	56.0%	126	9.3%	21	225
f. Conduct participatory food system assessments to strengthen regional food systems	0.9%	2	3.6%	8	16.9%	38	28.0%	63	39.6%	89	11.1%	25	225
g. Develop sustainability indicators for regional food systems	2.2%	5	5.3%	12	13.3%	30	26.2%	59	42.2%	95	10.7%	24	225
h. Generate policy-relevant food and agriculture information	1.3%	3	4.0%	9	8.9%	20	29.8%	67	47.1%	106	8.9%	20	225
i. Generate program-relevant food and agriculture information	1.3%	3	3.1%	7	12.9%	29	26.7%	60	44.9%	101	11.1%	25	225
j. Strengthen capacity for value-based supply chains	0.9%	2	3.6%	8	20.0%	45	29.8%	67	32.0%	72	13.8%	31	225

Question	Strongly disagree		Somewhat disagree		Neither agree nor disagree		Somewhat agree		Strongly agree		Not sure, not applicable, or missing		Total
k. Strengthen networks among food system actors with shared values	0.4%	1	5.3%	12	18.7%	42	28.9%	65	35.6%	80	11.1%	25	225
l. Conduct farmer engaged research on sustainable farming practices	1.3%	3	2.7%	6	4.4%	10	18.2%	41	64.9%	146	8.4%	19	225
m. Conduct farmer-led research on regional crop adaptation	1.3%	3	5.3%	12	11.1%	25	20.0%	45	50.7%	114	11.6%	26	225
n. Promote scaling up of farmer adoption of sustainable agriculture	1.8%	4	3.6%	8	7.6%	17	18.2%	41	58.2%	131	10.7%	24	225
o. Focus on diversity, equity, and inclusion in the food and farming sector to better serve farmers and food system actors of color	1.3%	3	4.0%	9	15.6%	35	26.2%	59	41.3%	93	11.6%	26	225
p. Conduct research to support equitable and fair labor practices in food and farming sectors	1.8%	4	4.0%	9	14.2%	32	27.6%	62	41.3%	93	11.1%	25	225

Means (Strongly disagree =1, somewhat disagree =2, neither =3, somewhat agree =4, strongly agree =5, not sure or N/A = omitted)

Question	Means	Standard deviation
a. Engage food and farming sector in research design, implementation, and dissemination of results	4.50	0.893
b. Support farmers in accessing markets for sustainable products	4.28	0.955
c. Conduct farmer-buyer networking events	3.67	1.101
d. Evaluate and communicate value of ecosystem services	4.42	0.867

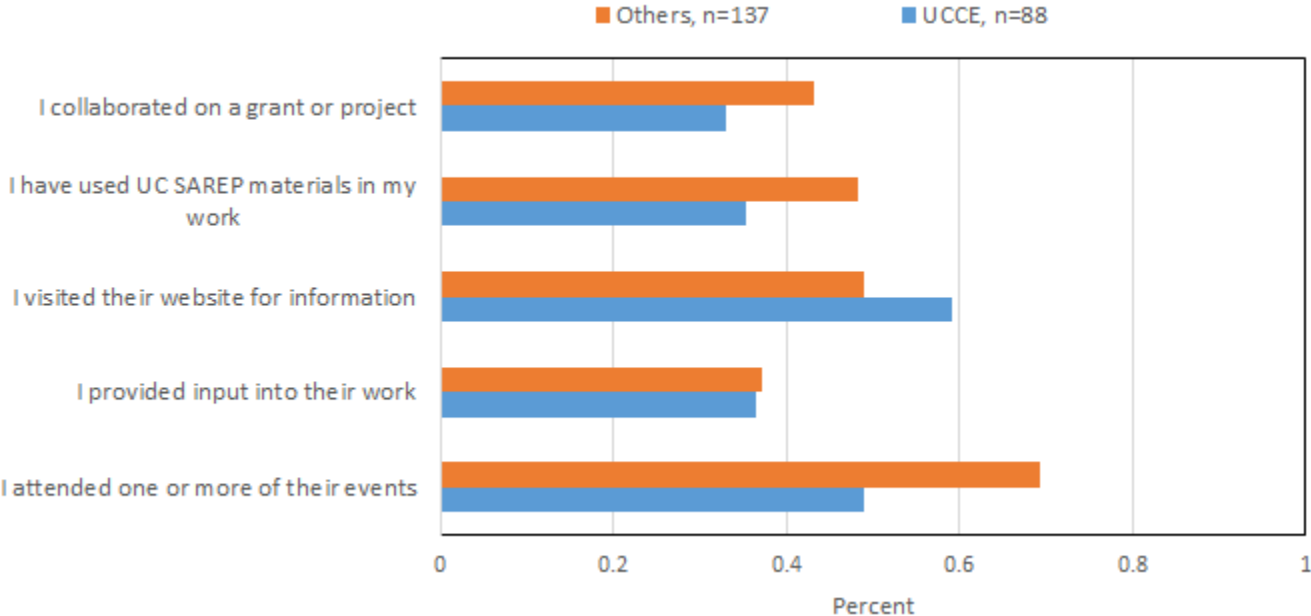
e. Evaluate and communicate true cost of food	4.39	0.927
f. Conduct participatory food system assessments to strengthen regional food systems	4.15	0.932
g. Develop sustainability indicators for regional food systems	4.13	1.036
h. Generate policy-relevant food and agriculture information	4.29	0.918
i. Generate program-relevant food and agriculture information	4.25	0.932
j. Strengthen capacity for value-based supply chains	4.03	0.930
k. Strengthen networks among food system actors with shared values	4.06	0.947
l. Conduct farmer engaged research on sustainable farming practices	4.56	0.835
m. Conduct farmer-led research on regional crop adaptation	4.28	1.001
n. Promote scaling up of farmer adoption of sustainable agriculture	4.43	0.947
o. Focus on diversity, equity, and inclusion in the food and farming sector to better serve farmers and food system actors of color	4.16	0.970
p. Conduct research to support equitable and fair labor practices in food and farming sectors	4.16	0.983

Q3 - Do you recommend that UC SAREP consider additional strategies to address critical needs in California? If so, please describe.

Lumped 78 responses into nine themes. Responses often covered multiple themes, but only assigned to one primary theme for ease of reading. Number of mentions are included in parentheses.

- A. Ag production comments (22)
- B. Policy and regulations (6)
- C. Increase internal knowledge and relationships (6)
- D. Climate change (6)
- E. Diversity/inclusion and social justice (6)
- F. Increase communication (5)
- G. Facilitate user or community-driven initiatives (4)
- H. Reduce number of strategies/scope (3)
- I. Geographic focus (3)

**Q4 - Please describe your level of interaction with UC SAREP in the last 10 years.
Select all that apply.**



Q5 - What types of information would you like to receive from UC SAREP? Select all that apply.

#	Answer	% of respondents	Count
1	Updates about research conducted by or in partnership with UC SAREP	75.1%	169
2	Updates about food and agricultural policy work conducted by UC SAREP	65.8%	148
3	Technical information from UC SAREP (e.g., instructional materials, best practices)	65.8%	148
6	Other, please describe:	9.3%	21

Q6 - How would you like to collaborate with UC SAREP in the future? Select all that apply.

#	Answer	%	Count
7	On research projects (e.g., farm trials, regional food system assessments)	51.1%	115
8	On extension projects (e.g., workshops, field days, networking events)	58.7%	132
9	On food and agricultural policy work	38.2%	86
6	Other, please describe:	11.6%	26

Q7 - Tell us about your preferred method of communication from UC SAREP about their research findings (e.g., research result, policy briefs)? This includes research conducted by and in partnership UC SAREP. Select one response for each item.

#	Question	Not preferred		Preferred		No opinion		Total
1	Blog postings	26.2%	59	28.0%	63	45.8%	103	225
2	Email announcements	14.7%	33	64.4%	145	20.9%	47	225
3	E-newsletters	7.1%	16	67.1%	151	25.8%	58	225
4	Field days/Workshops/Tours	7.1%	16	61.3%	138	31.6%	71	225
5	In-person consultations	19.6%	44	27.1%	61	53.3%	120	225
6	Journal articles	13.8%	31	44.9%	101	41.3%	93	225
7	Media/press releases	16.4%	37	28.4%	64	55.1%	124	225
8	Newsletters (paper)	39.1%	88	18.2%	41	42.7%	96	225
9	Online forums	34.2%	77	15.1%	34	50.7%	114	225
10	Phone consultations	36.4%	82	10.2%	23	53.3%	120	225
11	Social media (e.g., Facebook, Twitter)	32.9%	74	23.6%	53	43.6%	98	225
12	Webinars	16.4%	37	39.6%	89	44.0%	99	225
13	Website	5.8%	13	61.8%	139	32.4%	73	225
14	Other, please describe:	0.0%	0	2.2%	5	97.8%	220	225

Q8 - Tell us about your preferred method of communication from UC SAREP about Extension activities (e.g., meetings, field days, networking events). Select one response for each item.

#	Question	Not preferred		Preferred		No opinion		Total
1	Blog postings	22.2%	50	24.4%	55	53.3%	120	161
2	Email announcements	6.2%	14	66.2%	149	27.6%	62	187
3	E-newsletters	6.2%	14	60.4%	136	33.3%	75	181
4	In-person consultations	27.6%	62	20.0%	45	52.4%	118	163
5	Media/press releases	21.3%	48	27.1%	61	51.6%	116	163
6	Newsletters (paper)	35.1%	79	16.9%	38	48.0%	108	162
7	Online forums	32.4%	73	14.7%	33	52.9%	119	162
8	Phone consultations	34.7%	78	8.9%	20	56.4%	127	159
9	Social media (e.g., Facebook, Twitter)	30.7%	69	25.8%	58	43.6%	98	163
10	Webinars	20.4%	46	34.2%	77	45.3%	102	169
11	Website	6.2%	14	56.9%	128	36.9%	83	177
12	Other, please describe:	0.9%	2	1.8%	4	97.3%	219	25

Q10 - Do you identify as Hispanic or Latino?

Answer	%	Count
No	92.5%	184
Yes	6.7%	15
Missing	11.6%	26
Total	100%	201

Q12 - What is your gender identity? Select one response.

Answer	%	Count
Female	36.9%	83
Male	51.1%	115
Gender identity not listed above	0.9%	2
Missing	11.1%	25
Total	100%	202

Q11 - What is your race? Select all that apply.

Answer	% of respondents	Count
American Indian or Alaska Native	0.9%	2
Asian	7.1%	16
Black or African American	4.4%	10
Native Hawaiian or Other Pacific Islander	0.0%	0
White	72.0%	162
Race not listed above	4.4%	10