

College of Agricultural and Environmental Sciences

Academic and Strategic Plan 2020



Continuing to Meet the Challenges of 21st Century Global Change

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Continuing to Meet the Challenges of Global Change 2020 Update

EXECUTIVE SUMMARY

The College of Agricultural and Environmental Sciences (CA&ES) is a leader in educating the next generation of scientists and solving real-world problems in agricultural, environmental, and human sciences. This document reports the recommendations of the 2020 Academic and Strategic Plan (ASP). The ASP committee was comprised of scientists spanning different career stages, research expertise, and extension appointments.

The overarching mission statement for the college remains timely: "The mission of the College of Agricultural & Environmental Sciences is to promote agricultural, environmental, and social sustainability through research, teaching, and public engagement to meet the challenges of global change in the 21st century." Elements of the 2015 ASP with respect to teaching, research, and service are still highly relevant, as are the four themes: 1) Sustainable Agriculture and Food Systems; 2) Equitable and Healthy Communities; 3) Ecosystem Viability and Functionality; and 4) Meeting the Challenges of Climate Change.

The 2020 ASP retains and incorporates these elements from the 2015 plan (Appendix A) to align them with campus planning efforts and articulates key goals for the CA&ES under the umbrellas of teaching, research, and outreach. The 2020 plan develops goals that focus on instructional excellence, diversity, and inclusion, maintaining research excellence, and enhancing community engagement and public scholarship. Guiding principles and suggested implementation strategies are included for each goal, with the purpose of providing a roadmap to maintain and advance excellence in education, research, and outreach in the CA&ES. The goals will be applicable at various levels, integrating efforts throughout the college, from Dean's office to academic departments and other units. This conceptual framework will serve to guide subsequent workgroup efforts to decide on key priorities and actions, and implement future plans to achieve shared goals and monitor results.

The committee affirms the college mission and four themes from the 2015 ASP [1- Sustainable Agriculture and Food Systems; 2- Equitable and Healthy Communities; 3- Ecosystem Viability and Functionality; and 4- Meeting the Challenges of Climate Change] and proposes the following three **Conceptual Goals** to guide college efforts over the next five years:

1. Provide high quality, supportive, and diverse learning environments, and educational opportunities to promote student success and well-being to meet the challenges of a changing world.
2. Enable excellence, innovation and meaningful impact as a global leader in agricultural, environmental, and societal research that promotes healthy and sustainable food, ecosystems and communities.
3. Extend the influence of our research activities beyond the boundaries of the university in support of sustainable agricultural, environmental and human advancement.

Priority recommendations for short-term efforts are listed at the end of this report. These actions are cross-cutting and will help to focus activities in the near term to align with the three conceptual goals for the college and with the campus strategic plan.

I. Introduction

Charge:

The 2020 Academic and Strategic Planning (ASP) committee was charged to review and update the 2015 Academic and Strategic Planning Report by April 30th, 2020. With the challenges of the Covid-19 virus epidemic, that date was pushed to September 01, 2020. The 2020 ASP committee's full charge is noted in Appendix B. The specifics of the charge include a review of the 2015 ASP, the Dean's Report of Accomplishments, and the UC Davis Campus Strategic Plan (available on the UC Davis website). An updated draft plan for faculty review was expected by Sept 01, 2020 that: (1) affirms the elements of the 2015 ASP that are still relevant; (2) updates elements of the 2015 ASP that need to be refreshed; (3) incorporates input from a variety of constituents; (4) is inclusive of student needs; and (5) aligns with the Campus Strategic Plan. After consultation with faculty and participation in the Faculty Executive Committee's Fall Meeting, the ASP committee will finalize the report. A final version of the 2020 Academic and Strategic Plan will then be submitted to the CA&ES Dean's office by December 2020. The ultimate goal is to produce an updated version of the ASP and provide guidance to CA&ES for the upcoming five year period.

Context:

Over the past two decades, CA&ES has undertaken a number of comprehensive planning efforts. These include:

- CA&ES Academic and Strategic Plan (ASP) 2007 (Chair: Harrison)
- Academic Prioritization Committee (APC) 2009 (Chair: Greenwood)
- College Planning Committee 2010 (CPC) (Co-chairs: Delany, Hopmans)
- College Visioning Committee 2013 (CVC) (Co-chairs: Block, Schwartz)
- College Survey 2015 (Led by Campbell, CA&ES Associate Deans)
- Academic Strategic Plan Committee 2015: (Co-chairs: Oberbauer, Steinberg, Eadie)

In the 2015 Plan, the committee proposed a new overarching mission statement for the college and identified four core priority themes for growth and integration in the future. These themes were closely intertwined, focusing on global challenges of food, health, ecosystems, and humans in the 21st Century. Building on this integration, the 2015 ASP committee further proposed several areas for potential development through the hiring process, enhancement of facilities, innovative teaching, outreach, and pursuit of endowment funding to provide seed research funding. In doing so, the 2015 ASP presented a bold vision that sought to integrate core departmental strengths and build integrative capacity in emerging fields.

The vision, mission and themes developed in the 2015 ASP have served the college well. Nonetheless, the 2020 Academic and Strategic Planning (ASP) committee was charged to conduct a 5-year review. It was not envisioned that this committee would undertake large-scale revisions or attempt to develop new mission statements, priority themes or focal areas for investment. Rather, the goal was to simply ensure that the core elements of the 2015 ASP remain relevant, refresh any elements that needed updating, and ensure that the 2020 Plan was highly inclusive of student needs in a rapidly changing global society. A further overarching task was to ensure that the CA&ES Academic Strategic Plan aligned with the Campus Strategic Plan.

Approach:

A detailed description of the membership and mechanics of the committee is provided in Appendix C. The COVID-19 pandemic had just begun as the committee convened in March 2020, creating substantial challenges and eliminating the opportunity for in-person meetings. Nonetheless, the committee met by

Zoom at bi-weekly intervals from March 17 to July 7, 2020. Smaller working groups also met at their own times. The Deans Office provided a comprehensive document reviewing the accomplishments of the college in response to the 2015 Plan (Appendix D). The committee reviewed this document, the 2015 Academic and Strategic Plan, the 2018 Campus Strategic Plan, and the 2017 UC ANR Strategic Plan, in addition to other documents (see Appendix C).

II. Review of Accomplishments from 2015 ASP

As with all plans, review and revitalization are essential to keep strategic planning relevant and forward-thinking. Accordingly, the CA&ES Dean's Office prepared an assessment of the success of the college in addressing the recommendations made in the 2015 Academic and Strategic Plan (Appendix D). The Assessment Report indicated that the five recommendations identified in the 2015 ASP were useful in guiding college activities. In particular, recommendations helped to frame the need and justification for new faculty and Cooperative Extension (CE) Specialist positions, develop new research directions, and evaluate merit and promotion actions. The themes developed in the 2015 ASP were integrated into presentations by the college to visitors, new students, stakeholders, and potential donors. Many of the college's student programs are tied directly to efforts that support the themes and vision of the Plan.

Overall, the 2015 ASP helped direct the growth and development of the college over the last five years by focusing effort in key target areas. Here we distill key accomplishments from the Assessment Report associated with each of the five recommendation areas in the 2015 ASP.

2015 ASP Recommendation 1 – Focus college investments in four core themes, with strategic emphasis on integrated and transdisciplinary areas for future development. All departments across the college updated their academic plans to address programmatic deficiencies and develop new transdisciplinary efforts in areas of anticipated future demand. These efforts helped to reenergize and refocus departmental efforts to consider both critical needs and incentivize growth in new areas. The college invested heavily in maintenance of current facilities (e.g., capital improvements, field equipment and upgrading of irrigation systems, utilities, IT in off-campus locations) and expansion of new facilities (e.g., new greenhouses, goat creamery, Controlled Environment Facility, “vertical farm”).

2015 ASP Recommendation 2 – Pursue future hires to maintain existing core departmental strengths and build integrative capacity in emerging fields. A strength of the 2015 ASP was that it advocated a thematically-driven initiative process, wherein the four priority areas served as a guide for both regular departmental FTE calls and College Integrated Research and Education positions (CIRE's). This approach contributed significantly to the two-year FTE planning processes in 2016 and 2018 resulting in at least 76 new faculty and 13 CE specialists hired or currently under recruitment, many of which support core departmental strengths, build greater integrative capacity, and contribute to transdisciplinary research themes.

2015 ASP Recommendation 3 – Develop seed funding (through endowments) to support crosscutting, interdisciplinary research efforts. A number of seed funding opportunities were initiated, most notably the Programmatic Initiative which provided seed funding at \$50k/year. Other match funds were available through Global Affairs and for focal areas through established endowments. A substantial college investment was made in seed funding for Smart Farm Animal Smart Monitoring and for Smart Farm drones and sensors.

2015 ASP Recommendation 4 – Promote crosscutting educational experiences for undergraduates and graduate students. The college invested heavily in crosscutting educational experiences. Several new inter-disciplinary major and minors were approved, submitted, or are in development. A new fund

was developed to support experiential learning opportunities for students and has attracted donor support (~\$200k). Funds from other programs (over \$115k) have further supported undergraduate activities. A number of international learning opportunities were supported and new study abroad opportunities were created. Workgroups with department/master advisors and the Internship and Career Center (ICC) helped to enhance internship and experiential learning opportunities. Funding for IEC/IUC requests supported undergraduate educational upgrades. A number of undergraduate leadership and life skills programs were supported. A \$336,000 investment was made in the vertical farm for instruction (teaching in this space from the Plant Sciences Department to commence FY 20/21).

At the graduate level, the college updated and improved the TA allocation criteria (2017-18). Total TA allocations were increased to \$4,808,191 in 2018-19 from \$4,073,067 in 2015-16. A new interdisciplinary professional MS program in Environmental Policy and Management (EPM) was approved and is now administered through both ESP and the John Muir Institute. Support was enhanced for RIFA and GFAD Fellows.

2015 ASP Recommendation 5 – Develop bold and integrative outreach, teaching, and educational platforms that build and maintain the strength of the college. The college pursued a number of efforts to address this recommendation. Financial support was provided for an instructional designer (50%) to consult with all CA&ES faculty to enhance best practices in instructional design in teaching and use of technology. New internships, practicums and community-based capstone courses were developed, working with local partners and communities. Efforts were made to increase public engagement, such as the ‘Making Connections’ program, which provides opportunities for networking and exploration to enhance partnerships and collaborations between faculty and stakeholders.

Centers and Institutes actively supported a range of outreach and educational platforms (e.g., CalFresh SnapEd, Center for Regional Change, Center for Urban Horticulture SmartLandscape). To enhance the capacity for global engagement, two major initiatives were advanced: The International Programs Office was repurposed as the new Global Engagement Office to promote ‘agricultural, environmental and social sustainability through research, teaching and public engagement to meet the challenges of global change in the 21st century.’ The World Food Center was moved to the college in 2018 with a mission ‘to mobilize the resources of UC Davis to promote innovative, sustainable and equitable food systems’. Both efforts fit firmly within the mission outlined in the 2015 ASP.

III. Overview and Rationale for Changes in the 2020 Plan

The 2015 Academic and Strategic Plan provided a roadmap for the college with respect to key components of teaching, research, and outreach. The review and update of the Academic and Strategic Plan in 2020 has allowed for better alignment with campus planning efforts as well as greater focus on instructional excellence, diversity, and inclusion. While the 2015 Academic and Strategic Plan addressed priority college themes and strategies to meet societal and academic challenges, it did not include overarching goals. The committee felt that the largest single element of the 2015 ASP requiring further development was a set of specific goals and guiding principles broadly aligned with campus objectives. To enable a clear path forward with indicators of success, we have developed goal statements for teaching, research, and outreach. Each goal is further developed to illustrate core principles and implementation strategies. Below, we describe a general overview of the 2015 Academic and Strategic Plan with respect to the core pillars of teaching, research, and outreach in order to highlight areas that were further developed in the 2020 Plan.

The committee considered teaching at the undergraduate and graduate levels somewhat more broadly than the 2015 Plan. The 2015 plan highlighted experiential learning, new models of pedagogy, and support for smaller specialized classes. In the current plan, we retain these previous elements while emphasizing the importance of faculty support for developing innovative teaching methodology and expanded implementation strategies for new and more effective pedagogy guided by student learning outcomes. Importantly, critical issues to meet the educational needs of our student body are now addressed and explicitly included, such as reducing the opportunity gap, fostering diversity, and providing instruction where students of all backgrounds see themselves. The 2020 Plan also provides greater emphasis on graduate education and mentoring.

The most well-developed component of the 2015 Plan focused on research areas and research excellence. We retain the same general themes for research excellence as well as the need for facility and building maintenance. The 2020 Plan also emphasizes the importance of promoting CA&ES as a global leader in research and innovation as well as interdisciplinary research to increase the college's visibility and impact. The importance of diversity, inclusion, and equity in research activities are now strongly highlighted.

Outreach, including extension and our Land Grant mission, was generally woven into the 2015 plan, but not emphasized. In the current update, we have included a goal explicitly focused on the value of communicating the benefits of our research activities beyond university boundaries. The importance of community engagement, global engagement, and CA&ES leadership in guiding policies and solution-oriented application of research is now highlighted explicitly.

The committee intends that the 2020 Plan serve as a complement, rather than a replacement, to the 2015 Plan. We did not revisit the many suggestions for topical areas for development because the 2015 Plan did so comprehensively. Many of those suggestions remain relevant and worthy of investment today, and we append those in Appendix A to ensure that they continue to serve the college to inspire new cross-cutting and transdisciplinary areas of research and teaching. We envision the current 2020 Academic and Strategic Plan will position the college to continue to meet the challenges of global change in the 21st Century.

IV. The Global Mission and Priority Themes for the College Remain Unchanged

The 2020 Academic and Strategic Planning Committee enthusiastically supports the mission statement and the four Core Priority Themes developed in the 2015 Academic Strategic Plan to continue to guide college planning:

General Mission

The mission of the College of Agricultural & Environmental Sciences is to promote agricultural, environmental, and social sustainability through research, teaching, and public engagement to meet the challenges of global change in the 21st century.

Four Core Priority Themes

The 2015 plan identified four core priority themes for growth and integration within the college, noting that these themes are deeply intertwined. These four themes are bold directives that remain as relevant and challenging today as they were five years ago. If anything, their importance has only increased, and they stand now as an imperative to guide college planning. We present abridged descriptions of each

theme here (mostly verbatim from the 2015 ASP) while in Appendix A we provide in more detail ideas developed in the 2015 Plan on key challenges and critical areas for investment around topical areas associated with each of the four themes. The 2015 ASP committee invested much thought and effort in developing those more specific ideas and suggestions and we felt they were worth retaining in full.

Sustainable Agriculture and Food Systems

Sustainable agriculture and food systems seek to ensure secure, safe, and high quality healthful food for the world's population while minimizing negative social and environmental impacts. Fibers and biofuels are also important products of sustainable agricultural systems. Our college undeniably possesses the excellence and expertise necessary to provide leadership in confronting the challenge of balancing production with social responsibility. We have demonstrated and must continue to demonstrate that through our biological, social, and technological strength, we can expand production of food without compromising the environmental and social goals so vital to our existence. Sustainable agriculture and food systems are fundamental to all aspects of human existence, requiring substantial investment in existing strengths and integrated growth opportunities.

Equitable, Healthy Communities

Healthy, equitable, and vibrant communities are essential for a sustainable future. Multiple opportunities for global leadership lie at the nexus of food, health, well-being (i.e., social emotional health), environment, and society. Our college has a unique concentration of biological, environmental, developmental and applied social scientists to address complex human problems in systems such as family, food, health, and community. Integrative effects of foods and food systems on nutrition and health have physiological, social, economic, and policy implications for individuals and populations. Healthy human development across the lifespan depends on strong communities to support the physical, cognitive, social, and emotional well-being of individuals and families. Systemic inequalities (e.g., systemic racism, poverty, food availability, housing) and adverse experiences (e.g., climate change, community and family violence, hunger, homelessness) uniquely challenge health and well-being at each life stage. Social equity is a growing problem that demands attention — particularly in agricultural communities and inner cities. Multidisciplinary work across the college is needed to take leadership in innovative solutions for effective, sustainable, and environmentally sensitive communities, urban greening, and human health and well-being.

Ecosystem Viability and Functionality

Biological diversity in natural and human-dominated ecosystems is essential to human well-being and global sustainability. Ecosystem services, such as the provision of clean air and water, fisheries and forest products, carbon sequestration and climate regulation, are widely recognized to depend on the maintenance of biological diversity. In turn, biodiversity and the services it provides are threatened by climate change, disease, contaminants, habitat loss, and the many other interacting stresses that are forecast to intensify greatly during the 21st century. Our college plays a critical role in identifying, understanding, and developing scientific and policy tools to mitigate these threats, as well as in educating the next generation of environmental leaders and environmentally aware citizens.

Meeting the Challenges of Climate Change

Climate change is a leading sustainability challenge of our time running through the other three themes. Our college has and should continue to build its strength in climate science and policy, mitigation and adaptation, as well as expand educational offerings on this topic. Climate change represents an enormous opportunity for UC Davis and, in particular, the college, to take global leadership — given our proximity to state leadership in Sacramento and our college faculty who are global leaders in climate science research, policy, and education. The impacts of climate change on agriculture will significantly

impact the world's ability to feed itself. The impact of climate change on water resources cannot be overstated, as water management weaves through all themes.

Together these four themes illuminate how the college is uniquely positioned to approach the transdisciplinary issues that face humanity in the 21st century. These themes resonate strongly throughout every one of our recent college planning efforts. The efforts of our college across all disciplines are essential to address the emerging challenges of global change. This report acknowledges that the diverse components of our college need to function cooperatively if we are to remain preeminent leaders in the global arena and improve the lives of Californians and beyond. The 2015 plan framed our college's efforts in an integrated fashion to reenergize our mission and build upon our excellence moving forward. The 2020 ASP committee recognizes that these themes are inextricably linked and that they combine core strengths as well as areas requiring investment, particularly in the promotion of interdepartmental/interdisciplinary connections. These priority themes address challenges that are highly relevant to the California landscape as well as other communities throughout the world and will remain so for the next five years of college planning (and beyond).

V. 2020 Goals and Guiding Principles

Here, we outline the conceptual framework of three overarching goals of the 2020 Academic Strategic Plan addressing teaching, research, and outreach. For each goal, we propose core guiding principles that speak to the need and rationale for each goal, and implementation strategies to map a path forward. This section is organized such that each goal is presented with some context for importance, followed by guiding principles to help steer the college toward achieving the goals. Possible implementation strategies for each goal are highlighted in a call-out box, and are meant to be suggestions rather than exhaustive or exclusive.

Goal 1: Provide high quality, supportive and diverse learning environments, and educational opportunities to promote student success and well-being to meet the challenges of a changing world.

As a university of higher education, a core component and mission of the college is to provide an effective learning environment for undergraduate and graduate students that is accessible, equitable and inclusive. A core philosophy of the college is to help students of every background see themselves, their experiences, and their history as integral to the future of agricultural, human, and environmental sciences. We have the opportunity to communicate this value to our students through our classroom instruction, our interactions with students, and by providing high quality educational opportunities. As such, the college should create guidelines, policies and professional development that continually improve the learning context for all students, ensuring they have an equal opportunity to learn and thrive in the academic community. The result should be that every student feels valued and included, receives the support needed to graduate on time, and has gained the skills to meet the challenges of a diverse and changing world.

Guiding Principles:

The College of Agricultural and Environmental Sciences fosters diversity and integration across all areas, where students of every background see themselves, their experiences, their families, and their history as integral to the future of agricultural, human, and environmental sciences. The implementation of this principle will require adoption of evidence-based innovative and experiential

teaching methodology taught by a diverse set of faculty who represent the student body. Curricula must be rigorous, inclusive, and integrated across areas of faculty and departmental expertise. The college should lead in the use of equitable, effective teaching methods through increasing collection, analysis, and dissemination of new and existing data to guide more widespread implementation of best practices within the college.

Active, experiential learning at top-notch facilities that reflects modern, forward-thinking approaches is essential for the intellectual development of solution-oriented, critically-thinking leaders. The college has an important responsibility to educate the next generation of students and effectively prepare them for future careers. We are uniquely suited, and indeed given the breadth and expertise of our research faculty, obligated to provide experiential learning that is directly applicable to diverse future careers. The college should engage stakeholders to identify the skills and experiences they value most in our recent graduates, and document any gaps in student training and experiences that may be present. Such information should be used to improve teaching and other learning experiences so that the college may continue fostering excellence in scientific mentoring at the undergraduate, graduate and postdoctoral levels, and provide instruction, networking, and hands-on training to meet diverse career trajectories in industry, government, public policy, and academic appointments.

The college trains the next generation of scientists and policy makers by maintaining and growing our ability to deliver educational excellence at the graduate level. The college should identify and address gaps in graduate education with relation to equity in educational experiences, training and alignment with the needs for diverse career trajectories. The college should lead in the development of skills and research experiences that are valued for future placement of graduate students, as well as engage stakeholders to identify target or emerging areas of expertise that are necessary. Departments within the college should be mindful of the role of new hires in the contribution to graduate mentorship and training.

Implementation Strategies for Goal 1

High quality, supportive, and diverse learning environments, and educational opportunities to promote student success and well-being

The College of Agricultural and Environmental Sciences fosters diversity and integration across all areas, where students of every background see themselves, their experiences, their families, and their history as integral to the future of agricultural, human, and environmental sciences

- Encourage scholarly innovation in pedagogy that facilitates equitable world-class educational experiences and student exposure to the breadth and depth of CA&ES disciplines that address student interests and societal needs.
- Evaluate student learning outcomes across multiple levels (e.g., student, course, and program) to inform continuous improvements in teaching as well as timely graduation within departments and majors. Ask “for whom” teaching and advising strategies and programs are working or not working and “why” they work or do not work (i.e., testing the theory of change).
- Provide training to faculty and staff to increase their understanding of what constitutes equitable education, such as current best practices as well as practices that do not work or are biased. Provide updates regarding current efforts and new results from program evaluations.
- To facilitate systematic high quality programming and evaluation, consider creating a Diversity Teaching Fellowship in which faculty, graduate students, and undergraduate students participate as a team in choosing new strategies and/or programs, receive training, collect data, have group discussions (e.g., struggles and wins with implementation, interpreting data), and provide recommendations for the following year’s Diversity Teaching Fellows and for the college and university (e.g., at the above suggested annual training).
- Recruit diverse faculty to represent the diversity of the undergraduate programs, so that students have role models and opportunities to receive mentorship from faculty who have common experiences.
- Foster approaches that include STEM disciplines in the context of social, historical, environmental, and technologic impacts on people and communities.
- Recognize teaching excellence through awards, merit and promotion, and funds to support further curricular development.

Active, experiential learning at top-notch facilities that reflects modern, forward-thinking approaches is essential for the intellectual development of solution-oriented, critically-thinking leaders.

- Provide experiential learning through field courses, laboratory courses, and opportunities at our Natural Reserves and field stations.
- Encourage career development for emerging pathways in agriculture, biotechnology, food systems, and communities.
- Promote partnerships with state, federal agencies, and stakeholders to develop formal internship programs for both graduate and undergraduate students

The college trains the next generation of scientists and policy makers by maintaining and growing our ability to deliver educational excellence at the graduate level.

- Use generalizable sampling methods to assess quality and equity of educational experiences, such as graduation timelines, job placement, financial support, mentoring, and physical and socioemotional health.
- Use systematic methods to develop or facilitate targeted support for graduate research in priority areas. Evaluate and disseminate outcomes, following an integrated model of both education and research.
- Recruit diverse faculty to represent the diversity of the graduate programs, so that students have role models and opportunities to receive mentorship from faculty who have common experiences.
- Increase training capacity and acceptance of non-academic jobs for graduate students, such as faculty and advisor trainings of career paths and best practices for mentoring a student for those careers, facilitate internship partners for graduate students, host career fairs for masters and PhD degrees.

Goal 2: Enable excellence, innovation and meaningful impact as a global leader in agricultural, environmental, and societal research that promotes healthy and sustainable food, ecosystems, and communities.

Research capacity and expertise in the agricultural, environmental and human sciences forms the base of our rich tradition and legacy. The CA&ES is uniquely poised to leverage opportunities in emerging disciplinary focus areas and specializations to meet new scientific and social challenges. Creative endeavors and bold ideas can catalyze change and advance science at a rapid pace when research innovation is promoted. Furthermore, complex contemporary problems often require transdisciplinary and integrated approaches with cross-campus and global collaborations to achieve transformative successes. Strategic college financial investments are essential to maximize the impact of the work and help to achieve and maintain positions of national and global research leadership. College commitments to best practices and initiatives surrounding diversity, inclusion and equity will set the tone for research expectations and will facilitate progress in reaching greater inclusion and equity.

Guiding Principles:

Research excellence enables the college to meet future scientific and social challenges by promoting promising research areas while also maintaining core departmental strengths. Research excellence and scientific progress to meet and expand the mission of the college requires a balance of future research vision with traditional expertise. Strategies to promote this in college and departmental planning are essential.

Global leadership in research and innovation requires college commitment to interdepartmental and transdisciplinary work. Contemporary scientific and societal challenges are complex in nature, necessitating collaborations to generate bold ideas and discoveries for translation to effective solutions and implementation strategies. This can be achieved through various means to break down research silos, promote increased collaborative work and to enhance visibility and reputation of college research.

Support for research infrastructure and facilities is a fundamental aspect of maintaining research excellence in local, regional, and global arenas. State of the art and well-maintained research environments are critical to faculty and staff productivity and research excellence. Strategies to meet current and future research needs will be important to promote continued college prominence.

Identification, acquisition, and wise use of internal and external funding resources is an essential component of supporting and growing research programs. Strategic utilization of financial resources is crucial to the financial viability and stability of the college and all its units. The responsible and transparent fiscal management approach that is a hallmark of the college can also promote college research enterprises. Approaches that reward innovative thinking, promote future funding success and faculty visibility will enable faculty to pursue traditional and novel funding sources for high impact and mission-oriented research.

Promotion of diversity, inclusion and equity within research activities and programming is integral to maintaining and fostering research excellence. The college should be a leader within the university in all aspects of diversity, inclusion and equity. This is fundamental and must be pursued at all levels to achieve greater success of all college endeavors.

Implementation Strategies for Goal 2

Excellence, innovation and meaningful impact as a global leader in agricultural, environmental and societal research

Research excellence enables the college to meet future scientific and social challenges by promoting promising research areas while also maintaining core departmental strengths.

- Continue to recognize, promote and support foundational strengths of departments and consider future research visions and needs for new faculty hire allocations.
- Support innovation and risky but high return scientific ideas through mechanisms such as seed grants, etc.

Global leadership in research and innovation requires college commitment to interdepartmental and transdisciplinary work.

- Promote mechanisms and tools to encourage interdepartmental and cross-college work.
- Facilitate new faculty success in building national and international collaborations.
- Promote increased visibility of college research through enhanced web and communication strategies to highlight research excellence.

Support for research infrastructure and facilities is a fundamental aspect of maintaining research excellence in local, regional, and global arenas.

- Identify, prioritize, and implement strategies to update, upgrade, or develop new research laboratory space.
- Continue to upgrade and develop new greenhouse, animal, controlled environment, field sites and project incubator spaces to meet college demand for such facilities.

Identification, acquisition, and wise use of internal and external funding resources is an essential component of supporting and growing research programs.

- Continue to utilize the RAC process for providing cluster administrative support essential to research and faculty business enterprise.
- Facilitate faculty pursuit of extramural research funding support opportunities.
- Grow endowment funding for faculty to pursue mission-directed and new high impact projects. Program specific research programs and Endowed Chairs and Professors promote the stature and visibility of college and faculty.
- Increase endowed fellowship research opportunities targeting new faculty, students, and postdoctoral scientists (such as Hellman award, etc.).
- Promote success and financial sustainability of institutes and centers strategically important to the college mission.

Promotion of diversity, inclusion and equity within research activities and programming is integral to maintaining and fostering research excellence.

- Reflect commitment to diversity, inclusion and equity at all levels, from faculty hires through research and outreach processes and staff support.
- Provide support and retention for new faculty hires.
- Recognize and reward scientists at all levels who demonstrate excellence in diversity, inclusion, and equity in their CA&ES research.

Goal 3: Extend the influence of our research activities beyond the boundaries of the university in support of sustainable agricultural, environmental and human advancement

Our Land Grant Mission is to advance forward-thinking, science-based solutions through collaborative discovery and engagement to address local issues while generating global impact. Fulfilling this mission will require increasing our capacity for science communication and training. We must also recognize that change begins at home; the physical and social infrastructure of our college represents us to the world, and we must lead by example in embracing new ideas and discoveries that enable greater sustainability, equity, and inclusion.

Guiding Principles:

Public outreach and scholarship are essential to advance the mission of the CA&ES and grow our capacity for communication and public engagement with local, regional, national, and global stakeholders. As we seek to expand our capacity to extend knowledge, we must increase our capacity and training for the communication of science at all levels (i.e., undergraduate, graduate, faculty, staff). Effective outreach and public engagement will also require leveraging the power of the college to develop new community partnerships, especially with other public and private organizations. Finally, we must continue to recognize and reward public scholarship. As a land grant institution, outreach and extension of knowledge must be valued equally to research and teaching.

Leadership, public scholarship, and community engagement through CA&ES can be powerful tools to reduce inequality and promote sustainable communities in California. The college has an obligation to educate communities about best available practices that can lead to sustainable environments, financial security, and physical and mental health. We are uniquely positioned to advance and encourage forward thinking, science-based solutions through discovery and engagement with Californians to promote sustainability and equity of California communities and environments through engaged public scholarship. We can accomplish this by building strong community partnerships and engaging with policy-makers at local, state, and federal levels, in part by developing new opportunities to “embed” students directly in communities and policy-making organizations, and by facilitating participatory research to empower communities to identify, research, and create policy change.

Partnerships with Cooperative Extension faculty and academic advisors greatly strengthen our ability to extend and deliver science-based solutions and enhance our research excellence. A core strength of any Land Grant institution is the ability to support and implement cross disciplinary efforts that integrate new knowledge and extend it to public and regional stakeholders. To continue this mission, we must develop new and existing ANR-CA&ES partnerships that integrate and extend knowledge to public and regional stakeholders. The college can cultivate these partnerships by incentivizing the inclusion of ANR subawards on CA&ES research proposals, providing advocacy in support of CE Specialist positions, and supporting the development of training opportunities for students of all levels that capitalize on the expertise of CE faculty.

Implementation Strategies for Goal 3

Extend the influence of our research activities beyond the boundaries of the university

Public outreach and scholarship are essential to advance the mission of the CA&ES

- Facilitate, recognize, and reward effective outreach and public engagement.
- Promote workshops to understand how to better engage the public in our research and support efforts to enhance communication and outreach across all levels, from the individual research lab to the department, and up to the college level (e.g., web design, communications strategies and consultation, print and broadcast media support to make our messages more engaging and understandable to broader audiences).
- Support new programs that provide direct training in science communication and extension, and policy analysis and implementation (e.g., Graduate Academic Certificate in Science Communication and Extension, Masters of Environmental Policy Management, etc.)
- Value the outreach and extension of knowledge equally to research and teaching, and recognize and weigh such activities appropriately in merit and promotion actions at the department and college (FPC and JPC) levels.
- Promote seed funding for novel approaches (i.e., communicating science through art) to further incentivize efforts to engage the public and community in campus research and education. Facilitating the ability of individual labs, departments and units to highlight success in extension and public engagement and emphasize these in local and regional media communications will help broaden our impact.
- Continue to track outreach efforts across the college and evaluate our success in communication and extension of UCD ideas and innovations.

CA&ES leadership, public scholarship, and community engagement are powerful tools to reduce inequality and promote sustainable communities

- Promote sustainability and equity of California communities and environments through engaged public scholarship.
- Increase opportunities for active student engagement programs in extension and outreach, including programs to “embed” students directly in communities, enhance hands-on learning, and to extend skills and knowledge gained from UCD programs.
- Facilitate participatory research to empower and raise the capacity of communities to identify, research, and create policy change.
- Promote the engagement of youth in higher education through a diversity of approaches: create pathways to increase the educational attainment of youth; reach out with a strong commitment to engage youth-serving organizations; and encourage more young people from diverse backgrounds, histories and communities to pursue promising career paths in agricultural, environmental and human sciences.

Partnerships with Cooperative Extension faculty and academic advisors greatly strengthen our ability to extend and deliver science-based solutions and enhance our research excellence

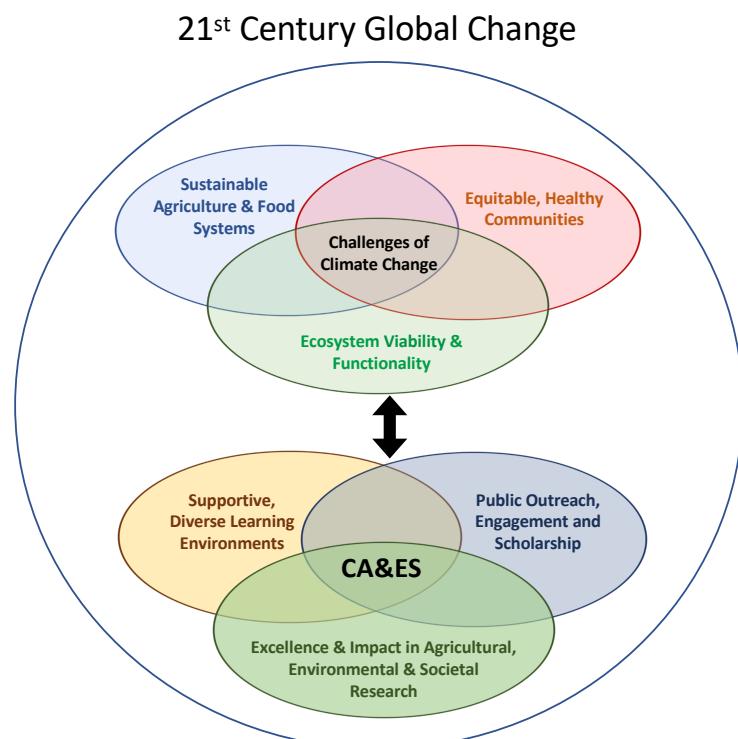
- Facilitate new and existing ANR-CA&ES partnerships by providing exemplars of CA&ES/ANR joint research and extension proposals, incentives for submission of new proposals, and streamlining the process for including ANR sub awards on research proposals.
- Advocate in support of CE Specialist positions, including the strong continued development of the environmental component of CE.
- Develop methods to engage and expose undergraduate and graduate students to learning opportunities provided by CE faculty and staff, in part by continuing discussion of joint IR/CE appointments to promote active pursuit and integration of teaching, training and extension of knowledge.

VI. From 2015 to 2020 – Linking Goals to Themes

The 2015 ASP developed four fundamental themes, illustrated by a Venn diagram (Appendix A) that demonstrated the close integration of sustainable agriculture & food systems, equitable & healthy communities, ecosystem viability & functionality, and the central overlapping challenge of climate change. All these themes remain highly relevant and provide guidance and inspiration for the college today. In an effort to align more closely with the Campus Strategic Plan, for the 2020 Academic Strategic Plan we focused on developing a clear set of Goals and Principles by which to make progress addressing the core priority themes. For each goal we further developed a series of Implementation Strategies as examples of “on-the-ground” actions that the college could take to achieve these goals.

We view these three 2020 goals as the underlying foundation of all of the college’s efforts to continue meeting the challenges of global change in the 21st century. The Venn diagram in the 2015 Plan provided a valuable heuristic by which to envision how the core strengths of the college in agricultural, environmental, and human sciences are closely inter-related and position us well to address climate change. In recognition of the symbolic power of that diagram, we offer an updated version.

Here we envision two levels of mutually interacting Venn diagrams. At one level are the three goals developed in this report – each goal is distinct but overlaps extensively with the other goals. We cannot provide state-of-the-art education without excellence in research, we cannot provide supportive and diverse learning environments without engaging with our local communities, and we cannot extend new ideas or develop new solutions without the key research, teaching and training that enables us to meet our mission as a land grant institution. The college is positioned firmly at the nexus of these goals – we have excellence and strength in teaching, research and outreach, and we must remain committed not only to meeting each goal, but ensuring that we do so in a fully integrated way where each goal helps to inform and advance the other goals.



In the revised diagram, we envision the three goals as the foundational level – the process by which we then build new knowledge, training and engagement with communities to undertake the challenges delineated by the next level of the Venn diagram representing the four focal thematic areas. We envision linkages from each of the three underlying goals to each of the four themes and vice versa, represented in the Venn diagram simply as an interconnecting arrow. Each goal outlines the pathways by which we will effectively address the challenges identified in each focal theme. Conversely, each thematic area serves as a key directive to motivate our teaching, research and extension efforts. Thus, not only do the themes overlap and intersect with one another, so too do the goals. The linkages and interconnections between goals and themes are perhaps the most important aspect of this model. This is a challenge that will need to be met by departments, Assistant and Associate Deans, and college, center and divisional level efforts to devise and enact specific strategies and action plans to incorporate teaching, research, and outreach goals – in a fully integrative way (not each alone) – to address the challenges of Global Change in the 21st Century.

VII. Priorities and Recommendations for the Next Five Years

The sudden and devastating impacts of the COVID-19 pandemic will undoubtedly create many challenges for the college, likely for several years to come. The college actions of the next five years will be affected by the pandemic; however, the college priorities and ultimate accomplishments should not be solely defined and dictated by these circumstances. While maintaining the strength of the college's teaching, research and extension programs will be difficult, this also represents opportunities to pursue innovations in the face of unprecedented challenges. Out-of-the-box thinking to envision new strategies for educational and research successes and financial stability of the college are needed. The 2020 committee is optimistic, and while we understand that expansion and growth may be limited in the near term due to fiscal constraints, we nonetheless envision that new opportunities will soon arise. Even in the face of institutional challenges, strengthening and growth in key areas are not only possible, but advantageous. Incremental steps help to achieve longer-term aspirational goals. Accordingly, we offer the following priorities in light of this longer-term vision, recognizing the significant challenges ahead.

Recommendations for short-term actions:

1. Focus efforts assisting faculty in developing and implementing innovative and effective teaching strategies, delivery modalities, and curriculum in the pandemic and post-pandemic higher education environment.
2. Strengthen efforts to reduce opportunity gaps and enhance educational achievements of diverse learners.
3. Develop actionable strategies to promote diversity, equity and inclusion at all levels of the college.
4. Promote continued faculty efforts in interdisciplinary and transformative research, particularly through mentorship of junior faculty for success in external grant funding.
5. Facilitate, recognize, and reward effective faculty outreach and public engagement through the merit process.
6. Support programs and training in effective science communication and outreach for faculty and graduate students.

Recommended areas for longer-term development:

Here we expand upon the longer term priorities requiring further development. These follow closely from the three conceptual goals we have presented and specifically, they articulate the focal needs identified by our core principles and distill many of the strategies we suggested. Ultimately, they provide strong support for realizing the college mission within the existing four themes of Sustainable Agriculture and Food Systems; Equitable and Healthy Communities; Ecosystem Viability and Functionality; and Meeting the Challenges of Climate Change.

Goal 1. Provide high quality, supportive and diverse learning environments

1. Increase and enhance educational opportunities to foster diversity and integration across all areas for students from all backgrounds
2. Support and expand experiential learning and work with stakeholders to identify skills and experiences most valued in our recent graduates, as well as gaps in their training.
3. Enhance support for graduate education and address gaps in relation to equity in educational experiences, training, and alignment with the needs for diverse career trajectories.

Goal 2. Maintain excellence, innovation and meaningful impact as a global leader in agricultural, environmental, and societal research

1. Maintain core departmental strengths in research while strategically promoting promising transdisciplinary research that addresses the four focal themes maintained from the 2015 Plan.
2. Promote increased collaborative inter-departmental research and provide support to enhance visibility and reputation of college research.
3. Continue to provide strong support for state-of-the art research infrastructure and facilities.
4. Assist and support faculty, departments, centers and other units to identify, acquire and use effectively internal and external funding resources.
5. Promote diversity, inclusion and equity within research activities and programming at all levels, from faculty hires through research and outreach processes and staff support.

Goal 3. Extend the influence of our research activities beyond the boundaries of the university

1. Facilitate, recognize, and reward effective outreach and public engagement.
2. Track outreach efforts across the college and evaluate our success in communication and extension of UCD ideas and innovations.
3. Promote sustainability and equity of California communities and environments through engaged public scholarship. Increase opportunities for active student engagement programs in extension and outreach, including programs to “embed” students directly in communities, enhance hands-on learning, and extend skills and knowledge.
4. Create pathways to increase educational attainment of youth, by reaching out with a strong commitment to engage youth-serving organizations and encourage more young people from diverse backgrounds, histories and communities to pursue promising career paths in agricultural, environmental and human sciences.
5. Facilitate new and existing ANR-CA&ES partnerships and advocate for CE Specialist positions. Explore methods to engage and expose undergraduate and graduate students to learning opportunities provided by CE faculty and staff.

Appendices

Appendix A. Focal Topical Areas under the Four Priority Themes from the 2015 Plan

The four priority themes developed in the 2015 Plan provided a framework for college growth. A second goal of the ASP 2015 report was to delve into each theme to provide this guidance. To do so, the 2015 report identified topical areas of research, education, and outreach for each theme that represent existing strengths and growth opportunities for CA&ES. The report recognized that these topical areas needed to be evaluated further to assess the areas of strategic emphasis to achieve the two-pronged goal of investments in core strengths of the college to maintain excellence and investments in new focal areas to advance the mission of the college to meet the local and global challenges.

The 2020 ASP committee intends that the 2020 Plan serve as a complement, rather than a replacement, to the 2015 Plan. We did not revisit in any detail the many suggestions for topical areas for development outlined in the 2015 Plan because the 2015 ASP committee devoted much thought and attention to these topical areas and many of those suggestions and ideas remain relevant and worthy of investment five years later. For completeness, we append material from the 2015 Plan that outlines each of those topical areas for investment under the four core priority themes. These will continue to serve the college to help inspire and suggest new cross-cutting and transdisciplinary areas of research, teaching and engagement.

I. Sustainable Agriculture and Food Systems

Key research challenges to ensure sustainability of agriculture and food systems include efficient and responsible resource utilization, mitigation of agriculturally related emissions, adaptation to a changing climate, addressing water management, mitigate a declining labor force, and developing innovative approaches for bio-based materials, pathogen management, and healthy food production. Novel approaches must be adopted to address these research areas and include collection and analysis of big data, high throughput phenotyping, improved understanding of the ecology of agricultural systems, and quantifying tradeoffs. Topical areas for future development include:

- Ensuring food security (quantifying global challenges to food security, adaptation to climate change, sustained productivity, accommodating changing diets, breeding and biotechnology, environmentally adaptive, agroecological approaches with reduced environmental costs, accessibility, transport/adjacency to demand)
- Food quality and safety (flavor, bioactives, healthful attributes and biofortification, acceptability, pathogen and pest control, analysis of policies and regulations)
- Resource-efficient production and supply chain (resource use, sustainable processing, resource utilization efficiency, water, transportation, post-harvest elements, byproduct utilization, efficiency including protecting resources such as water, reduction of energetic inputs, economic impacts of each step of supply chain, mitigation of greenhouse gases)
- Traditional and novel approaches to agricultural production and improvement (big data, genomics and phenomics, selection, proteomics, remote sensing, biotechnology, appropriate technology and scale, and use of agroecological approaches; compatibility with biodiversity)

- Disease and pathogen management and mitigation (enhance early detection technologies, environmentally sound and cost effective pest control, environmentally sound management of plant animal and vector-borne diseases, reduction of disease in face of abiotic stress)
- Labor force (improving the welfare of the labor force through fair wages, race relations, healthy working conditions, housing, health care; developing alternatives to a declining labor force).

II. Equitable, Healthy Communities

Challenges to optimal human development exist that are related to youth, a growing elderly population, epidemic proportions of obesity and chronic disease, and issues of class, race, and gender. Social equity is a growing problem that demands attention — particularly in agricultural communities and inner cities. Urban resource use and the urban–agricultural interface generate additional challenges and offer opportunities for the college to take leadership in innovative solutions for effective, sustainable, and environmentally sensitive communities, urban greening, and human health and well-being. By emphasizing integrated approaches linking social and biologic dimensions, we can create the transformative ideas needed to inform sustainable development, vibrant communities, and provide solutions for equitable access to food and nutrition at the individual, community, societal, and global scales. Topical areas for future development include:

- Human development, health and nutrition (biomarkers of health and disease, nutrient metabolism, nutritional and community impacts on health and development through the lifecycle, microbiome and microbial community interrelationships to food and health, communicable and non-communicable disease risks , prevention and mitigation)
- Sustainable economic and spatial development (ag/urban interface, urbanization, threats to land used in production agriculture by urban sprawl, bio-economic optimization of intervention programs)
- Social equity (affordable housing, built environment to promote health, ethnic diversity, human labor resources/labor systems, chemical impacts of products and treatments, worker safety)
- Ecological restoration and urban greening (green cities, incorporating environment with housing; linking natural systems and communities for human benefit, human/wildlife conflicts and ecosystem management)
- Carbon neutral communities (green building, energy systems, transportation)
- Community food systems (food safety, food justice, accessibility and food security, safe and available water)

III. Ecosystem Viability and Functionality

While UC Davis enjoys one of the world's top-ranked environmental programs, we face many critical gaps, both in rapidly emerging areas such as climate change science, and in maintaining our critical base strengths. Also, we have not yet solved the long-recognized problem of achieving better integration within the college and improving visibility for our environmental research, teaching, and outreach. Topical areas for development include:

- Conservation of biodiversity and minimizing anthropogenic impacts on natural and human-dominated ecosystems in the face of global stresses (climate change, human population growth, habitat loss, declining water quality and availability, emerging and known contaminants, disease management)
- Sustainable management of the ecosystem services and economic resources provided by the natural environment (forests, wildlife, soil, air, fresh water, marine and coastal ecosystems)

- Development of effective solutions to environmental challenges through the integration of natural sciences with the social sciences (economics, policy, planning, design, community development and related implementation strategies)
- Employ reconciliation ecological approaches (manage agricultural, urban, rural, and wild lands in ways that promote wildlife and enhance biodiversity in the landscapes in which humans work, live, produce food, and recreate)

IV. Meeting the Challenges of Climate Change

Particular research opportunities exist around climate mitigation policy and planning, energy policy, urban greening strategies for climate change adaptation, bio-resources for materials and energy, and behavior change strategies. CA&ES, with its outreach responsibility, can also engage California communities — at state, regional, and local scales — in ways that connect climate research to policy and action. Outcomes at the state level can be modeled for national and international implementation.

Topical areas for development include:

- Mitigation strategies (climate action planning and policy across governmental scales; energy conservation; renewable energy; water management; greenhouse gas-reducing agricultural strategies)
- Adaptation strategies for agriculture, the environment, and human communities (recharging ground water, water efficiency, agroecology, urban greening, green building, preparation for intensified storms, food security)
- Maintaining agricultural productivity in the face of biotic and abiotic stresses (emerging disease management and mitigation, vector management, enhancing food production on marginal lands)
- Climate science (characteristics and impacts of a changing climate on all ecological landscapes both human-dominated and natural)

The 2015 Plan recognized that many topical areas are common across the themes illustrating the interrelated nature of the CA&ES expertise and vision. This led to a conceptual framework that helped to clarify a central observation of this committee — future efforts of CA&ES will need to be interdisciplinary, integrative, and will cut across many of the traditional college pillars.

The 2015 Report presented a Venn diagram that illustrates the coordinated efforts necessary to tackle these topical areas. The overarching theme is to meet the challenges of global change (represented by a circle encompassing all four priority themes and the Venn diagram represents visually the interrelated aspects of the topical areas identified under each of the themes. The college expertise lies at the nexus of these crosscutting issues facing society. Global challenges of food, health, ecosystems, and human communities will require concerted coordinated efforts to effect innovative and transformative solutions.

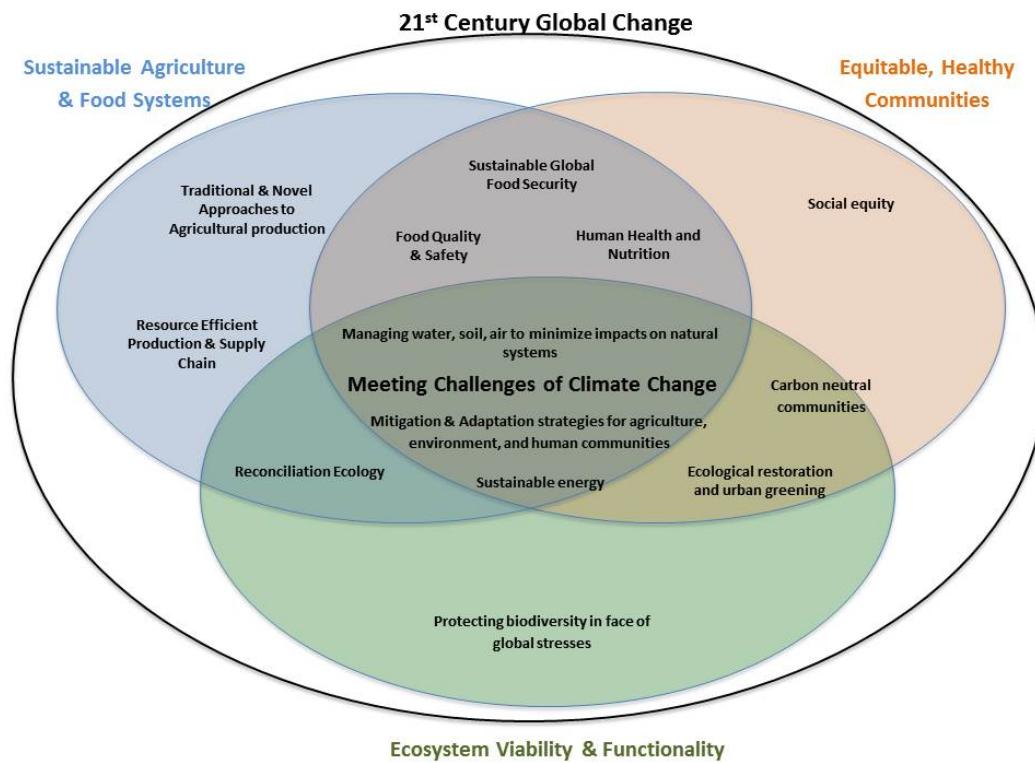


Figure 1. A Venn diagram to illustrate the interdisciplinary and overlapping nature of the topical areas of expertise that lie within the four priority themes proposed for the CA&ES.

Appendix B. Charge Letter

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February 11, 2020

PAT BROWN, Associate Professor, Plant Sciences
GITTA COAKER, Associate Professor, Plant Pathology, Co-Chair
JOHN EADIE, Professor, Wildlife, Fish & Conservation Biology, Co-Chair
SUSAN EBELER, Associate Dean, CA&ES Dean's Office, *ex officio*
MARCEL HOLYOAK, Associate Dean, CA&ES Dean's Office, *ex officio*
ERMIAS KEBREAB, Associate Dean, CA&ES Dean's Office, *ex officio*
BRENDA NAKAMOTO, Executive Assistant, CA&ES Dean's Office, staff support
ANITA OBERBAUER, Associate Dean, CA&ES Dean's Office, *ex officio*
PATSY EUBANKS OWENS, Associate Dean, CA&ES Dean's Office, *ex officio*
STEVEN SADRO, Associate Professor, Environmental Science and Policy
TINA SAITONE, Associate Cooperative Extension Specialist, Agricultural and Resource Economics
FRANCENE STEINBERG, Professor, Nutrition, Co-Chair
KALI TRZESNIEWSKI, Faculty Executive Committee

RE: 2020 CA&ES Academic and Strategic Planning Committee

Dear Colleagues,

I am enthusiastically writing to share the details of the 2020 College of Agricultural and Environmental Sciences Academic and Strategic Planning Committee ("2020 ASPC"). Let me first express my sincere thanks for your expressed willingness to serve on this committee during both the winter and spring quarters of 2020. I am well aware that you have many other priorities, so please know how much I appreciate your individual and collective service on behalf of the entire college.

I would also like to acknowledge the three co-chairs for this committee, Professors and Chairs Gitta Coaker, John Eadie and Francene Steinberg. Their programmatic expertise, organizational skills and, most importantly, dedicated service on the previous planning committee offer a great blend of leadership and collaborative skills to guide this new committee.

The committee work will be fast paced and I look forward to hearing about your progress during the quarter. The *ex officio* members will be available to provide information, historical context and general support. Brenda Nakamoto of the Dean's Office will provide staff support as she has done in an exemplary manner for other college committee efforts.

Herein I outline the ASPC charge:

- Review the 2015 Academic and Strategic Plan, the Dean's Report of Accomplishments (to be provided by February 28th) and the Campus Strategic Plan (UCD website).
- By April 30th prepare an updated draft plan for faculty review which:
 - Affirms the elements that are still relevant
 - Updates those that need to be refreshed
 - Incorporates input from a variety of constituents
 - Is inclusive of student needs
 - Aligns with the Campus Strategic Plan

2020 ASPC
January 24, 2020
Page 2

- Participate in the Faculty Executive Committee's Spring Faculty Meeting (May 20th) which will focus on how the proposed plan may be implemented
- Submit the final version of the 2020 Academic and Strategic Plan to the Dean's Office by June 30th

The ultimate goal is to produce an updated version of the 2015 Academic and Strategic Plan to provide guidance to the College for the upcoming five-year period.

Warm regards and thank you for your service,



Helene R. Dillard, Ph.D.
Dean and Professor

cc: Ron Tjeerdema, CA&ES Dean's Office
Russ Hovey, CA&ES Faculty Executive Committee Chair
Penelope Herbert, CA&ES Dean's Office
Christopher Glick, CA&ES Dean's Office
Mari Royer, CA&ES Dean's Office

Attachment: 2015 Academic and Strategic Plan

Appendix C. Committee Mechanics

The committee membership included seven faculty members and was co-chaired by Gitta Coaker, John Eadie and Francene Steinberg. Five Associate Deans were *ex officio* members and at least two Deans were present at every committee meeting. Brenda Nakamoto provided superb executive support and was the focal point in setting meetings, compiling notes and drafts and helping to keep committee members informed and engaged during this challenging time.

The membership included:

Pat Brown, Associate Professor, Plant Sciences
Gitta Coaker, Professor, Plant Pathology, Co-Chair
John Eadie, Professor, Wildlife, Fish & Conservation Biology, Co-Chair
Susan Ebeler, Associate Dean, CA&ES Dean's Office, Ex Officio
Marcel Holyoak, Associate Dean, CA&ES Dean's Office, Ex Officio
Ermias Kebreab, Associate Dean, CA&ES Dean's Office, Ex Officio
Brenda Nakamoto, Executive Assistant, CA&ES Dean's Office, Staff Support
Anita Oberbauer, Associate Dean, CA&ES Dean's Office, Ex Officio
Patsy Eubanks Owens, Associate Dean, CA&ES Dean's Office, Ex Officio
Steven Sadro, Assistant Professor, Environmental Science and Policy
Tina Saitone, Associate Cooperative Extension Specialist, Agricultural and Resource Economics
Francene Steinberg, Professor, Nutrition, Co-Chair
Kali Trzesniewski, Specialist in Cooperative Extension, Human Ecology (Faculty Executive Committee representative)

The Covid-19 corona virus epidemic began just as the committee convened in March 2020, which created substantial challenges, notably eliminating in-person meetings and unexpectedly needing to juggle the increased demands of the rapid shift to on-line teaching. Nonetheless, the committee met by Zoom at bi-weekly intervals from March 17 to July 7, 2020. Smaller working groups also met at their own times. At the first meeting Executive Associate Dean Ron Tjeerdma, Associate Dean Marcel Holyoak and Associate Dean Ebeler met with the committee to provide an overview of the task and to address any questions or information needs. The Deans Office also provided a comprehensive document reviewing the accomplishments of the college in response to the recommendations in the 2015 Plan (full text in Appendix D).

The committee proceeded by reviewing the accomplishments document and previous plans including:

- College Visioning Committee Report 2013
- College of Agricultural and Environmental Sciences Academic Strategic Plan 2015
- College of Agricultural and Environmental Sciences Centers and Institutes Review 2016
- UC ANR Strategic Plan 2017
- UC Davis Strategic Plan To Boldly Go 2018
- Diversity and Inclusion Strategic Vision 2017
- Public Scholarship for the Public Good Pan 2019

Through a series of discussions, the committee felt that the largest single element of the 2015 ASP that required further work was the development of a set of clear goals and guiding principles. While the 2015 Plan presented bold new ideas linked to the four core priority themes, the 2020 committee felt it would be highly worthwhile to revisit and re-cast these initiatives and directives under a series of well-articulated goals. Further, the committee felt that rather than compiling a list of implementation strategies, as in the 2015 Plan, specific implementation strategies and actions should be developed and

targeted to each of the three overarching goals. Accordingly, the committee spent the majority of both meeting time, and individual effort developing and refining the three overarching goals, the guiding principles upon which those goals rest, and a compilation (not intended to be exhaustive) of possible action items and implementation strategies to facilitate progress toward meeting each goal.

The committee felt that the 2015 ASP was focused heavily on research and hiring needs and so in the 2020 report, we placed somewhat more emphasis on education/teaching needs and outreach/extension. Both of these areas were considered in the 2015 ASP, but given the necessary brevity of that report, received limited discussion. Since many of the research needs are well covered in the 2015 Plan, we sought to ensure that not only goals and guiding principles be developed for these areas, but that specific implementation strategies be proposed as well.

Completion of the report draft was delayed due to the challenges of the Covid-19 pandemic, and similarly the spring CA&ES faculty executive committee meeting was cancelled. The draft report was submitted to the Deans by end of summer and the entire review process is anticipated to be completed during fall 2020.

Appendix D. Dean's Office Review of Accomplishments

College of Agricultural and Environmental Sciences 2015 Academic and Strategic Plan – Accomplishments

March 2, 2020

Background

The original charge for the 2015 Academic and Strategic Planning Committee (2015 ASPC) was to articulate a small set of inclusive, innovative and forward-thinking college-wide priorities that built upon both the 2013 College Visioning Committee Report and the 2105 Academic and Strategic Planning Survey. Ultimately, the committee developed the following mission for the college:

To promote agricultural, environmental and social sustainability through research, teaching and public engagement to meet the challenges of global change in the 21st century.

To accomplish this mission, they also identified four core priority themes:

- *Sustainable Agriculture and Food Systems*
- *Equitable, Healthy Communities*
- *Ecosystem Viability & Functionality*
- *Meeting the Challenges of Climate Change*

Ultimately, the committee posed five final recommendations:

- *Focus college investments in four core themes, with strategic emphasis on integrated and transdisciplinary areas for future development.*
- *Pursue future hires to maintain existing core departmental strengths and build integrative capacity in emerging fields.*
- *Develop seed funding (through endowments) to support crosscutting, interdisciplinary research efforts.*
- *Promote crosscutting educational experiences for undergraduates and graduate students.*
- *Develop bold and integrative outreach, teaching, and educational platforms that build and maintain the strength of the college.*

This strategic plan has guided many college activities over the past five years, including decisions about departmental position requests and conversations with donors. Our faculty and CE specialists often refer to it when developing new research directions (often represented by their Hatch projects) and when establishing relevance for merit and promotion actions. The themes of the plan are integrated into presentations that Dean's Office staff give to visitors and form the basis of presentations about our college mission and vision to incoming undergraduate students. Finally, many of our student programs are tied directly to efforts that support our Academic and Strategic Plan.

Over the past year the campus completed an audit of the college and recommended that along with the reappointment of the dean should embark on a process to revisit the 2015 Academic and Strategic Plan. As the mission for the college is still quite timely, it was recommended that instead of a "herculean task of revising the plan overall" it could undergo a "periodic refresh." Thus, the charge for the 2020 ASP is not to develop a new plan but to instead review the current plan and provide an updated version that also aligns with the campus strategic plan.

A vital part of refreshing the current plan into the new 2020 Academic and Strategic Plan is to provide a summary of the accomplishments achieved under the current plan. Thus, we briefly describe them below – keyed to the final recommendations of the current plan.

Accomplishments per the 2015 Academic and Strategic Plan

1. Focus college investments in four core themes, with strategic emphasis on integrated and transdisciplinary areas for future development.

In addition to the routine two-year college FTE planning cycle in which departments were asked to update their academic plans and identify new FTE needs that would address their programmatic deficiencies (research, teaching, etc.), departments were also encouraged to develop new transdisciplinary areas in anticipation of future demands. In doing so they were encouraged to take advantage of both the campus' Hiring Investment Program (HIP) and the College Integrated Research and Education (CIRE) Program.

The college has also made significant investments into facilities over the past five years (see Appendix 3, Recommendation #1). For instance, new level 5 greenhouses and an expanded Controlled Environment Facility are nearing completion and a new goat creamery recently opened. A vertical farm will be delivered in the spring for teaching to begin in Fall Quarter. Capital improvements and upgrades have been made in most buildings aligned with faculty start-up needs, field equipment and irrigation systems upgraded, and utilities and IT upgraded in many of our off-campus locations like the Center for Aquatic Biology and Aquaculture (CABA) and to better accommodate both research and teaching needs.

2. Pursue future hires to maintain existing core departmental strengths and build integrative capacity in emerging fields.

Over the past five years the 2015 Academic and Strategic Plan significantly contributed to the two-year FTE planning processes in both 2016 (for recruitments in 2017 and 2018) and 2018 (for those in 2019 and 2020). In total, approximately 76 new faculty and 13 CE specialists were hired or are currently under recruitment.

Recruitments were also supplemented by both the HIP (6 FTE) and CIRE (14 FTE) programs (see below). A complete listing of faculty and CE specialists recruited over the past five years is presented in Appendices 1 and 2 at the end of this report.

Hiring Incentive Program (HIP)

HIP 1 – Climate Change Adaptation: Improving Readiness and Resilience

Frances Moore (ESP) – Climate change policy
Eric Post (WFCB) – Climate change ecology

HIP 2 – Tropical Conservation Biology

Daniel Karp (WFCB) – Tropical conservation biology

HIP 3 – Solidifying a National Leadership Role in Poverty Research

Patricia Roberson (HE) – Socioeconomic disadvantage and development

HIP 4 – Sustainable Marine Resources: Future of Food from the Sea

Kiva Oaken (WFCB) – Quantitative fisheries ecology
Matthew Reimer (ARE/ESP) – Marine resources economics

College Integrated Research and Education (CIREs I and II)

CIRE I.1 – Climate Change

Adele Igel (LAWR) – Cloud Physics and Climate Change

CIRE I.2 – Nutrition, Human Development and Behavior

Jennifer Falbe (HE) – Nutrition and Human Development
Peng Ji (NUT) – Nutrition and Behavioral Neurobiology

Elizabeth Prado (NUT) – Nutrition and Behavioral Neurobiology

CIRE I.3 – Animal Ethics and Animal Behavior

Mark Cooper (ANS/HE) – Animal Agricultural Ethicist

CIRE I.4 – Spatial Sciences

TBD (LAWR; under recruitment) – Spatial and Environmental Informatics

TBD (BAE; under recruitment) – Remote Sensing (LPSOE)

CIRE II.1 – Strengthening the Linkages between Agriculture and Nutrition

Christine Diepenbrock (PLS) – Crop breeding for human nutrition

Christina Lazcano (PLS) – Soil and plant nutrition

Payam Vahmani (ANS) – Animal-source food production

CIRE II.2 – Urban Landscapes in a Changing World – Integrating Plant Ecology and Sustainable Design

Haven Kiers (HE) – Urban plant materials and design

Alessandro Ossola (PLS) – Urban horticulture design – urban plant sciences

CIRE II.6 – Climate Adaptation Cluster

Eric Chiu (HE) – Climate change – the urban-rural interface

Erwan Monier (LAWR) – Climate change – new weather extremes

J. Grey Monroe (PLS) – Climate adaptation – plant genomics

College Open Recruitment

Maciel Hernandez (HE) – Human development

Fernanda Valdovinos (ESP) – Evolutionary ecology of insects

3. Develop seed funding (through endowments) to support crosscutting, interdisciplinary research efforts.

The third recommendation of the 2015 Academic and Strategic Plan was to develop seed funding (through endowments) to support crosscutting, interdisciplinary research efforts. The college offers a number of seed funding opportunities either alone or in a matching capacity with other campus units. For example, the following competitive opportunities:

- Programmatic Initiative which seeks to provide seed funding at \$50k/year
- Rustici endowment to seed fund \$500k/year for research and outreach related to beef cattle
- Global Affairs match up to and not exceeding \$30k/year for last two years and \$20k this year
- France-Berkeley \$4k/year

Additionally, the college provided Seed funding for Smart Farm Animal Smart Monitoring (\$600k) and for Smart Farm drones and sensors (\$335,000). These were aligned with the campus commitment to Smart Farm as a part of their “Big Ideas” campaign.

The existing seed funds that are available may not be apparent to some CA&ES faculty because of the program titles (e.g. “programmatic initiative” may not be seen by faculty as seed funding). It may be helpful to CA&ES faculty to have all the seed funding opportunities supported by the college and the campus listed on a website linked to the college website with a label of “seed funding opportunities” to assist faculty in locating these funds.

Departments may have seed funding opportunities that target specific topics typically linked to the wishes of the donor who endowed the fund. Those are managed by the departments.

Some existing CA&ES Endowed Chairs have support that may be used for supporting cross cutting initiatives. For example 1) the Kellogg Endowed Chair in Sustainable Food Systems with the mandate to leverage existing with research and teaching to foster a safe, healthy and accessible food supply while building a national network of leaders in sustainability; 2) the Robert M. Hagan Endowed Chair in

Water Management and Policy with the goal of developing new methods and approaches to the resolution of water problems; and 3) the John B. Orr Endowed Chair in Environmental Plant Sciences having the objective of further strengthening the internationally recognized research activities in this area in the college, and enhance interdisciplinary cooperation across departments. The recently established Nora S. Gustavsson Endowed Chair in Water Resources also has the opportunity to foster cross disciplinary efforts for water management.

Development staff typically do not specifically seek seed funding endowments, but are responsive to donors' wishes. Seed funding endowments often do not resonate with donors and thus gain little traction. Nevertheless, there are several cross cutting endowments in process – that is these endowments are part of estate planning and will be available in the future. Although targeting broad areas, there is potential to apply those particular endowment funds to the many interdisciplinary areas for which the college has expertise.

4. *Promote crosscutting educational experiences including minors, internships, small group learning opportunities, international exposure and improved education abroad opportunities.*

Majors and Minors (see also Appendix 3, Workgroup Recommendation #3):

- A new Climate Science and Policy Minor was approved in November, 2017. The first three students graduated in spring 2019 (one of these was a student with a major in L&S, two were students with a major in CA&ES).
- A new cross-college major in Earth Systems Science was proposed (joint between LAWR and Earth and Planetary Sciences/L&S) and submitted to the Academic Senate for review in October 2016. The Senate did not approve the major, and no revisions have been received by CA&ES Dean's office to date.
- A new Agricultural and Environmental Technology (AET) major was submitted to the Academic Senate in February 2020 and is currently under review.
- A group of faculty in CA&ES and beyond are developing an environmental justice minor, which is ongoing in February 2020 and led by Gwen Arnold (ESP).
- Professors Ebeler, Owens and Volder received seed funding from the UC Davis Feminist Research Institute to explore factors that impact selection of majors in CA&ES. The initial results have been presented to ANS, ESP and HE advisors/chairs; project being completed with undergraduate students in winter/spring 2020.
- Most undergraduate majors have undergone review and curricular updates in the last five years; how they have contributed to the goals of the 2015 Academic and Strategic Plan has been an important review criterion.
- A new interdisciplinary professional MS program in Environmental Policy and Management (EPM) was approved in December 2017 and is now administered through both ESP and the John Muir Institute.
- Professors Trzesniewski, Cannon, Owens, and Ebeler received seed fund to explore the impact of increasing belonging of UCD undergraduate students on academic outcomes.

Experiential Learning Opportunities (see also Appendix 3, Workgroup Recommendation #4):

- An experiential learning fund was created in 2018. It has been a popular fund for donors, receiving \$199,751 since 2018. The Dean's Circle Fund has also been used to support experiential learning opportunities for students. Undergraduate Academic Programs (UAP) also supports three to five

travel grants (\$500 limit each) for undergraduates to attend professional meetings each quarter. In 2018-19, over \$115,000 was contributed to a variety of student activities, several of which include:

- One to two Students each year to attend the Farm Foundation Cultivator Program (to date all have been graduate students).
 - Supporting Career Treks for students to visit employers in the Monterey/Salinas, Imperial Valley/Yuma and Central Valley areas each year; a collaborative program with UC Davis Internship and Career Center (ICC) it includes support for the annual Western Growers Association's Careers in Agriculture Tour.
 - Annual support for the Multiculturalism in Agriculture, Natural Resources and Related Sciences (MANRRS) program.
 - Annual one-day bus trip to visit Bodega Marine Laboratory (BML).
 - The weekly van to BML to support undergraduate research projects there.
 - Financial support (through Dean's Circle) to off-set housing costs for 10 students at BML enrolled in Summer Session courses.
 - Blum Center Fellows (funding for five students @\$2,000 each every summer for the past several years.
 - A Bus to transport students to the Fancy Foods Show in San Francisco.
 - Annual support for students to participate in World Ag Expo.
 - Annual support for participation in the Produce Marketing Association (PMA) Fresh Summit.
 - Support for the American Society of Agricultural and Biological Engineering (ASABE) Robotics Team.
 - Support for the OWN IT Summit held by Davis Women in Business.
 - Support for the Plant Sciences Symposium led by students at universities from around the world.
 - Annual support for the FIRST Robotics Team (a.k.a. Citrus Circuits) and the UCD Summer Mathematics and Science Honors Academy (SMASH), both of which foster underrepresented students interested in STEM fields.
 - Travel grants (up to \$500 per student per event) to attend professional society/organization conferences. Example of conferences supported in 2018-19 include the American Society of Landscape Architects; Agriculture Future of America Leaders Conference; American Society of Cell Biology Annual Meeting; Sigma Alpha National Convention; California and Arizona Cattle Feeders Meeting; National FFA Convention; Idea World Fitness Convention; Western Forest Insect Work Conference; Sustainable Agriculture Education Association; SACNAS: The National Diversity in STEM Conference; and the International Plant and Animal Genome XXVII Conference.
-
- A faculty workgroup was created to review and update and improve TA allocation criteria (2017-18). TA allocations for 2015-16 were \$4,073,067 versus those for 2018-19, which were increased to \$4,808,191.
 - Funding for IEC/IUC requests averaging \$350,000 per year and including software purchases for the college.
 - CA&ES Dean's Office support for student Service Learning Opportunities to Monterey (Spring Break 2018, 2019) and the Central Valley (Spring Break 2020).
 - CA&ES Collegiate Leadership Team, Winter/Spring 2019 and 2020.
 - Aggie Ambassadors curriculum was revised and updated to include leadership training (communication skills, networking, problem-solving, etc.) and career panels each quarter.
 - Created workgroups with department/master advisors and the Internship and Career Center (ICC) to enhance internship and experiential learning opportunities with ICC.
 - Life Skills Workshops including partnerships with Dean's Office advisors, departmental faculty and major advisors:

- Healthy Cooking 101, Fall 2018, with NUT
- Personal Finance Workshop, Winter 2020, with ARE

International Learning Opportunities/Education Abroad:

- Supported a student team to participate in the Greenhouse Design Challenge at Wageningen University, The Netherlands (September 2018).
- Supported a student team to participate in the City of the Future Design Challenge in China (Fall 2019). Ten students collaborated with other teams from Sao Paulo University, Cornell, Wageningen University and China Agricultural University. The challenge was for one year so the students spent a week in December 2019 in China; they are expected to return to China in December 2020 for a final presentation.
- Four UCD students are participating in an A5 International Digital Hackathon to fight global hunger. The A5 consortium includes UC Davis, Cornell University, China Agricultural University, University of Sao Paulo and Wageningen University.
- Provided partial travel support for seven students to attend a Special Program on Tropical Bio-based Production Systems summer class at the University of São Paulo, Brazil in the summer 2019. We will support students again in summer 2020.
- Several faculty/departments have developed new Study Abroad Opportunities:
 - Equine Welfare and Management in Poland, Instructor: Maja Makagon (ANS).
 - Water Management in a Mega-City (Mexico City, Mexico), Instructor: Sam Sandoval Solis (LAWR).
 - Viticulture and Enology Exchange in Australia, Departmental Coordinator: Dario Cantu (VEN).
 - GIS in the Land of the Thunder Dragon/Summer Abroad in Bhutan (several LDA courses offered), Instructor, Karen Beardsley.
 - Housing and Urbanism in Barcelona, Instructor: David De la Peña (Human Ecology).
 - Science and Society (SAS) in the Middle EAsst, Instructor: Majdi Abou Najm (LAWR).
 - Sustainable Cities of Northern Europe, Instructor, Catherine Brinkley (Human Ecology).
 - Introduction to Winemaking, Instructor: Chik Brenneman (VEN; not a new course since the strategic plan).
 - Perspectives in Global Management, Edinburgh, UK, Instructor: Jerry Lundblad (ARE).
 - Community, Technology and Sustainability in Nepal, Instructors: Jonathan London (Human Ecology) and Nancy Erbstein (School of Education).
- **RIFA and GFAD Fellows** – they are for graduate students, mostly in the International Agricultural Development Graduate Group but also some from other colleges.
- The Smart Farm Big Idea – includes development of new courses such as “Unmanned Aircraft Systems” (via drones) and The Internet of Things” (see also Recommendation #3 above).

Other Experiences (see also Appendix 3, Workgroup Recommendations #2 and #5):

- A \$336,000 investment in the vertical farm for instruction. The vertical farm is to be delivered in May 2020, with teaching in this space from PLS to commence FY 20/21.
5. *Develop bold and integrative outreach, teaching and educational platforms that build and maintain the strength of the college.*

Various platforms were expanded or created in the last five years that engage students, faculty, and the general public in the college's mission. These include efforts in use of technology in teaching and on-

line learning, public engagement activities, outreach and educational activities supported by our college-based Centers and Institute, and a re-envisioned Global Engagement Office and World Food Center.

Technology in teaching and on-line learning platforms:

The college provides financial support for an instructional designer (50%) to consult with all CA&ES faculty in order to enhance incorporation of best practices in instructional design in teaching and use of technology in teaching. The instructional designer has also worked closely with two CA&ES Faculty Technology Scholars who have developed workshops and resources, offered to all CA&ES faculty, for use of clickers and videos in the classroom and they have created a [Student Resources FAQ](#) as a plug-in for course Canvas pages (the FAQ has had >15,000 users and ~60,000 page views in the past year). The instructional designer has been instrumental in supporting development of on-line courses that have also been partially funded through UCOP ILTI funds. These courses are available to UC Davis students and to students at all UC campuses through on-line learning. Courses include:

- FST 3V Introduction to Beer and Brewing – a cross-campus course.
- NUT 10V Discoveries and Concepts in Nutrition – a cross-campus course
- SAS 2V Feeding the World: Influences on the Global Food Supply – a cross-campus course.
- PLS 7V Just Coffee: The Biology, Ecology and Socioeconomic Impacts of the World's Favorite Drink – a cross-campus course.
- PLS 21V Application of Computers in Technology – a cross-campus course.

In addition, Professor Arnold Bloom has leveraged previous ILTI funds to develop an on-line climate change course that is free to the public: <http://www.climatechangecourse.org/>

Traditional classroom/courses:

CRD 164 (Professor London) focuses on a community engaged research project. Past examples have included the Oak Park Promise Neighborhood initiative, [Aggie Square](#) and [Clear Lake](#).

LDA 192 (Professor Rios and Bernadette Austin taught an internship course in partnership with the City of Sacramento and four student teams that worked with design firms. Here are some links that accompanied that effort.

- City project site: <http://www.cityofsacramento.org/WIM>
- KCRA: <https://www.youtube.com/watch?v=cgJDCbuZh2U>

Students in David de la Pena's LDA 141 (Community Participation, Design and Planning) partner with local organizations on design and planning projects each winter quarter.

Capstone courses:

A number of majors had added community-based capstone project requirements. Examples include Sustainable Agricultural and Food Systems, Sustainable Environmental Design, and Landscape Architecture.

Internships and practicums:

- PLS 164 (Restoration Practicum), students work with professionals and nonprofits on the completion of restoration projects.
- Students in Human Development have several opportunities to work in the community. In HD 140 students engage with young children in the on-campus lab; HD 141 provides students with opportunities to work with children and adolescents; in HD 142 students conduct fieldwork with emotionally distressed children and adolescents; and in HD 143 students have the opportunity to work with older adults in a variety of settings.
- In CRD 156 Community Development majors work with a community client to develop an economic development solution.
- Landscape Architecture students regularly engage in studio-based projects. In particular, LDA 182, 183 and 184 students regularly work with community-based clients on developing real-world design alternatives

Public engagement opportunities in majors and courses:

College faculty and departments have been actively involved in public engagement through a variety of course-based projects, development of capstone courses, and incorporation of internships and practicums into the undergraduate majors in the college. Many examples of CA&ES Community Engaged Learning opportunities are provided in the information recently collected by the Office of Public Scholarship and Engagement (see Appendix 4).

Center and Institute-based outreach and educational activities:

Centers and Institutes have also actively developed and supported a range of outreach and educational platforms, including:

- CalFresh has developed curricula to support food-based learning and environmental stewardship in partnership with county-based advisors and staff.
- CalFresh's SnapEd program provides interactive classroom for K-12 students on improving and informing food choice and training to preschool educators on nutrition and physical activity.
- CalFresh hosts conferences and summits bringing together public, students and researchers focused on food systems.
- NUT's Center for Nutrition in Schools provides nutrition-related curricula and educator training curricula as well as webinars.
- The Center for Regional Change, Professor Brazil and Instructor Hedao partnered with the [Franklin Boulevard Business District](#) on an applied research project.
- The Center for Urban Horticulture is engaging approximately 30 students in the SmartLandscape initiative. The students regularly engage with industry, faculty and staff - https://ccuh.ucdavis.edu/sites/g/files/dgvnsk1376/files/inline-files/SmartLandscape_040418ppt.pdf
- The Robert Mondavi Institute hosts quarterly community lectures and discussions on wine and food topics.

Public engagement opportunities between faculty and California stakeholders:

The college has instituted a series of tours to facilitate engagement between faculty and external partners throughout the state. The 'Making Connections' program provides opportunities for networking and exploration to enhance partnerships and collaborations between faculty and a variety of private and public stakeholders and to increase the potential impact of faculty research, teaching, and outreach. Information about the 'Making Connections' program is here: <https://caes.ucdavis.edu/making-connections>.

Global engagement:

Under the direction of Associate Dean Ermias Kebreab, the International Programs Office has been repurposed as the new Global Engagement Office. Its mission is the promotion of agricultural, environmental and social sustainability through research, teaching and public engagement to meet the challenges of global change in the 21st century.

The World Food Center was moved to the college two years ago and is now under the direction of AD Ermias Kebreab. Its mission is to mobilize the resources of UC Davis to promote innovative, sustainable and equitable food systems.

Conclusions

While probably not a complete summary of activities, those detailed above provide a glimpse into the various accomplishments guided by the 2015 Academic and Strategic Plan. There are likely other activities and accomplishments that have been overlooked and could be added. However, it is important to note that the current strategic plan was both developed by an academic committee representing all departments within the college and implemented without revision by the dean. It has served as the main guide for the college over the past five years and, as the impacts of global change continue to intensify with regards to agricultural productivity, environmental quality and human and community health, it remains quite timely in most respects. However, like all planning documents, it needs periodic review and updating.

Appendix 1
New Faculty Hired Since 2015

Department	Name	Academic Area	Year of Hire	Rank
Agricultural & Resource Economics	Ashish Shenoy	Global Poverty Reduction	2016-17	Asst
Animal Science	Anna Denicol	Endocrinology	2016-17	Asst
Animal Science	Xiang (Crystal) Yang	Meat Scientist	2016-17	Asst
Animal Science	Kristina Horback	Applied Animal Ethology	2016-17	Asst
Environmental Science & Policy	Frances Moore	Climate Change Policy (HIP 1)	2016-17	Asst
Human Ecology	Johnna Swartz	Physiology, Ecology and Development	2016-17	Asst
Land, Air and Water Resources	Adele Igel	Cloud Physics and Climate Change (CIRE I.1)	2016-17	Asst
Nutrition	Reina Engle-Stone	Community and Global Nutrition	2016-17	Asst
Nutrition	Gerardo Mackenzie	Nutrition Science	2016-17	Asst
Plant Sciences	Barbara Blanco-Ulate	Postharvest Physiologist	2016-17	Asst
Plant Sciences	Brian Bailey	Crop Modeler	2016-17	Asst
Viticulture and Enology	Ben Montpetit	YeAsst Biologist	2016-17	Asst
Wildlife, Fish & Conservation Biology	Eric Post	Climate Change Ecology (HIP 1)	2016-17	Full
Wildlife, Fish & Conservation Biology	Daniel Karp	Tropical Conservation Biologist (HIP)	2016-17	Asst
Ag & Resource Economics	Bulat Gafarov	Applied Econometrics	2017-18	Asst
Animal Sciences	Elizabeth Maga	Applied Animal Molecular Geneticist	2017-18	Asst
Animal Science	Hao Cheng	Quantitative Geneticist	2017-18	Asst
Animal Sciences	Amy McLean	LPSOE - Equine Science	2017-18	Asst
Biological and Agricultural Engineering	Andre Daccache	Water Resource Engineer	2017-18	Asst
Entomology and Nematology	Geoffrey Attardo	Molecular Cell Biology or Physiology of Arthropod Vectors	2017-18	Asst
Food Science and Technology	Luxin Wang	Microbial Food Safety	2017-18	Asst
Human Ecology	Clare Cannon	Community & Regional Development and Policy	2017-18	Asst
Human Ecology	Noli Brazil	Community & Regional Development and Policy	2017-18	Asst
Human Ecology	Patricia Roberson	Socioeconomic Disadvantage and Development (HIP)	2017-18	Asst
Human Ecology	Jennifer Falbe	Nutrition and Human Development (CIRE I.2)	2017-18	Asst
Land, Air & Water Resources/ LBNL	Da Yang	Hydroclimate Modeler	2017-18	Asst
Land, Air & Water Resources	Isaya Kisekka	Water Resource Engineer	2017-18	Asst
Nutrition	Peng Ji	Nutrition and Behavioral Neurobiology (CIRE I.2)	2017-18	Asst
Nutrition	Elizabeth Prado	Nutrition and Behavioral Neurobiology (CIRE I.2)	2017-18	Asst
Plant Pathology	Joanne Emerson	Virology	2017-18	Asst
Plant Sciences	Mohsen Mesgaran	Weed Biologist	2018-19	Asst
Plant Sciences	Patrick Brown	Woody (Nut Breeder) Plant Geneticist	2017-18	Asst
Plant Sciences	Thomas Buckley	Plant Stress Ecophysiologist	2017-18	Asst

Plant Sciences	Gail Taylor	Department Chair	2017-18	Full
Wildlife, Fish & Conservation Biology	Andrew Rypel	Peter B. Moyle CA Trout Endowed Chair in Coldwater Fishes	2017-18	Assoc
Ag & Resource Economics	Mark Agerton	Natural Resource Economics	2018-19	Asst
Animal Science	Timothy Hackmann	Ruminant Nutrition	2018-19	Asst
Entomology and Nematology	Jason Bond	Schlänger Endowed Chair	2018-19	Full
Entomology and Nematology	Shahid Siddique	Plant Nematologist	2018-19	Asst
Env. Science and Policy	Xiaoli Dong	Applied Ecosystem Modeler	2018-19	Asst
Environmental Toxicology	Sascha Nicklisch	Env. Toxicologist	2018-19	Asst
Human Ecology & Animal Science	Mark Cooper	Animal Agricultural Ethicist (CIRE I.3)	2018-19	Asst
Human Ecology	Joseph Anistranski	LPSOE - Human Development	2018-19	Asst
Human Ecology	Haven Kiers	Urban Plant Materials and Design (CIRE II.2)	2018-19	Asst
Human Ecology	Leigh Ann Simmons	Department Chair	2018-19	Asst
Land, Air and Water Resources	Majdi Abou Najm	Soil Biophysics	2018-19	Asst
Land, Air and Water Resources	Erwan Monier	Climate Adaptation: New Weather Extremes (CIRE II.6)	2018-19	Asst
Nutrition	Debbie Fetter	LPSOE - Nutrition Science	2018-19	Asst
Plant Sciences	Amanda Crump	LPSOE - Int'l Development	2018-19	Asst
Viticulture and Enology	Megan Bartlett	Whole-Plant Grapevine Physiology	2018-19	Asst.
Plant Sciences	Christine Diepenbrock	Plant Crop Improvement (CIRE II.1)	2018-19	Asst
Environmental Toxicology	Allison Ehrlich	Env. Toxicologist	2019-20	Asst
Food Science and Technology	Glen Fox	Anheuser Busch Endowed Chair	2019-20	Assoc
Viticulture and Enology/Bio & Ag Engineering	Mason Earles	Crop Sensing, Modeling & Automation	2019-20	Asst
Animal Science	Payman Vahmani	Animal Nutrition Link: Animal Source Food Production (CIRE II.1)	2019-20	Asst
Viticulture and Enology	Elisabeth Forrestel	Whole-Plant Grapevine Physiology	2019-20	Asst
Land, Air and Water Resources	Christina Lazcano	Soils & Plant Nutrition (CIRE II.1)	2019-20	Asst
Entomology & Nematology	Emily Meinke	Urban Landscape Entomology	2019-20	Asst
Food Science and Technology	Julien Delarue	Sensory & Consumer Science	2019-20	Asst
Human Ecology	Meng Huo	Adult Devl. And Aging	2019-20	Asst
Human Ecology	Eric Chu	Climate Change Socioeconomic Adaptation (CIRE II.6)	2019-20	Asst
Nutrition	Maria Chondronikola	Clinical Nutrition	2019-20	Asst
Plant Pathology	Tiffany Lowe-Power	Plant Pathology	2019-20	Asst
Plant Sciences	Cameron Pittelkow	Agronomy & Agroecosystems	2019-20	Asst
Plant Sciences	Troy Magney	Digital Agriculture	2019-20	Asst
Agricultural and Resource Economics	Jamie Hansen-Lewis	Environmental Economics	2019-20	Asst
Wildlife, Fish and Conservation Biology	Jutine Smith	Wildlife Habitat Ecology	2019-20	Asst
Human Ecology	Emily Schlickman	Urbanism and Emerging Technologies	2019-20	Asst
Human Ecology	Maciel Hernandez	Human Development (Open Recruitment)	2019-20	Asst
ARE/ESP	Matthew Reimer	Marine Resource Economist (HIP 4)	2019-20	Assoc
Wildlife, Fish and Conservation Biology	Kiva Oken	Quantitative Fish Ecology (HIP 4)	2019-20	Asst

Currently in Recruitment

Plant Sciences	Alessandro Ossola	Urban Horticulture Design: Urban Plant Sciences (CIRE II.2)	2020-21	Asst
Plant Sciences	Jennifer Funk	Grassland Ecology	2020-21	Assoc
Plant Sciences	J. Grey Monroe	Climate Adapt: Plant Genomics (CIRE II.6)	2020-21	Asst
Environmental Science and Policy	Fernanda Valdovinos	Evolutionary ecology of insects (Open Recruitment)	2020-21	Asst

Appendix 2
New CE Specialists Hired Since 2016

Department	Name	Academic Area	Year of Hire	Rank
Animal Science	Jackson Gross	Aquaculture Specialist	2017-18	Asst
Biological and Ag Engineering	Farzaheh Khorsandi	Ag Safety & Health Engineering	2017-18	Asst
Biological and Ag Engineering	Alireza Pourreza	Mechanical Engineering	2017-18	Asst
Human Ecology	Vikram Koundinya	Evaluation Specialist	2017-18	Asst
Human Ecology	Keith Taylor	Community and Economic Development Specialist	2017-18	Asst
Plant Pathology	Akif Eskalen	Pathology of Vines and Berries	2017-18	Asst
Entomology & Nematology	Ian Grettenberger	CE Field and Vegetable Crops	2018-19	Asst
Food Science and Technology	Selina Wang	Small Scale Fruit & Vegetables	2018-19	Asst
Land, Air & Water Resources	Kosana Suvocarev	Biometeorology Specialist	2018-19	Asst
Agricultural & Resource Economics	Brittney Goodrich	Economics of Sustainable Ag Management	2019-20	Asst
Plant Sciences	Giulia Marnio	Orchard Production Systems	2019-20	Asst
Land, Air and Water Resources	Mallika Nocco	CE Soil-Plant-Water Relations/ Deficit Irrigation	2019-20	Asst

Currently in Recruitment

Animal Sciences	Pedro Carvalho	Feedlot Management	2020-21	Asst
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Note: No CE specialists were recruited in 2016-17.

Appendix 3
Strategic Plan Suggested Workgroups

1. Workgroup to explore and prioritize needs for college facilities —survey, review, prioritization, and development opportunities on an integrative, college level.
2. Workgroup to develop a consistent and coordinated strategy for college hiring priorities, to balance core departmental FTE needs with new opportunities for growth and integrations. Further in-depth strategic planning should focus on development of the emerging crosscutting opportunities for academic investment. Integrative FTE hiring initiatives — review and revise (if necessary) procedures and priorities, including CIRE and LSOEs, to meet departmental and college needs for research, outreach, and educational delivery of integrative concepts. The workgroup should evaluate the overall success of the collaborative efforts of previous cluster hires. Consideration is needed to prioritize/facilitate HIP proposals in a college-wide coordinated fashion to grow strategically.

3. Workgroup to identify existing crosscutting, integrative minors and explore ways to invigorate those and explore development of new integrative minors that cross departments.
4. Workgroup to explore alternative models and support for small class experiential learning (lab, field courses) and alternative models of pedagogy to incorporate active learning into classes of all sizes; this workgroup could also explore support for graduate education, TAships, readerships, since this is tied directly into growing undergraduate numbers but limited graduate support.
5. Workgroup to explore seed funding procedures that should be supported by endowments/fundraising etc., not redirection of core funding. Seed funding should be supported by new funds, as opposed to a redirection of base funds.
6. Workgroup to discuss the relationship with ANR, as this relationship contributes to the UC CA&ES mission. This includes specialist hires with a joint I&R/CE appointment but other items as well, such as campus affiliation, funding, etc.
7. A workgroup to fully develop and explore the bold, big ideas that will showcase the full spectrum of CA&ES impacts and exemplify the priorities presented in this planning document.

Appendix 4 CEL Courses

Course Title	Course Number	Description (<100 words)
Freshwater Macroinvertebrates and Aquatic Insect Collection Lab	116 and 116L	This course works with macroinvertebrates in partnership with Cache Creek Conservancy, a Yolo County nonprofit. The 5-unit course is offered in Spring, with three hours of lecture and two hours of lab. Data collected on site by students is sent to the Cache Creek reserve for further use. Presents an opportunity for the traditional CEL model, but would require a theory component.
Concepts in Agricultural and Environmental Education	AED 100	This course is a requirement for the Agricultural Education credential program. Student's go to local high schools, judge Future Farmers of America (FFA) programs, and do 30 hours of observation. The course also provides guest speakers. The instructor contacts guest speakers through organizations she is involved in, such as California Agricultural Teachers Association. This course lacks any theory component, thusly does not fit into any of the CEL frameworks. Undergraduates interviewed felt this course as one that pushes them out of their comfort zone.
Community Development Perspectives on Environmental Justice	CRD 149	In this 4-unit upper division class, with on average between 50-70 undergraduate students, students once had the opportunity to work with community partners on projects focused on environmental justice.
Community Economic Development	CRD 156	In this 5-unit upper division class, students had the opportunity to conduct research on communities located in South Sacramento using U.S. Census data, in addition to data collected via interviews with residents and business owners. Designed like a consulting firm, students worked in groups in order to develop an economic development solution for their client or community partner, Ubuntu Green. Ubuntu Green was treated as a client, where students had the opportunity to field the director for suggestions based on their research in their community, and the students presented their projects to the director at the end of the quarter.
Theories of Organization and their Role in Community Change	CRD 164	In this 5-unit upper division class, students once had the opportunity to work with outside community partners to create an analysis of the organization's work.
Art, Science, and World of Insects	Entomology 001	This course allows students to work on one art project throughout the quarter that pertains to insects. It is a 3 unit lower division course offered in Spring Quarter. At the end of the quarter, students present and display their artwork at 3rd Space Art Collective for public display. The student explained that there is a final art project that is submitted to the art collective at the end of the quarter and stated that it was a success because many students and strangers came to view the artwork.

Restoration Ecology	Environmental Horticulture 160L	The course is organized similarly to PLS 164 as they partner with local environmental management and restoration organizations to provide basic field services. For example, the class has traveled to the Bodega Bay Marine Lab to help manage invasive coastal plant species. Many students are offered jobs or make helpful connections through the fieldwork done in these classes.
Communication and Interaction with Young Children/ Laboratory in Early Childhood	HD 140/140L	HDE 140 is a 2 unit course and must be taken concurrently with HDE 140L; the combination of these classes can vary from 3 to 5 units. Both courses are traditionally offered every quarter, with the exception of summer sessions. Within these courses, undergraduates learn theories and practices relating to child development. Then, during the laboratory portion, undergraduates apply what they have learned at the Early Childhood Laboratory to infants, toddlers, and preschoolers.
Field Study with Children and Adolescents	HD 141	This course can vary from 4 to 6 units and is traditionally offered every quarter with the exception of summer sessions. In HDE 141, students will have their specific internship placements in either children or adolescents. The course provides an opportunity to intern in an educational or therapeutic program, with the opportunity to work with children and/or adolescents under the supervision of an on-site professional. After completion of this assignment, the students will present their findings to the professor and other undergraduates.

Course Title	Course Number	Description (<100 words)
Field Study with Emotionally Distressed Children and Adolescents	HD 142	This course can vary from 4 to 6 units and is traditionally offered during winter quarter. In HDE 142, undergraduates are able to work with children who are identified as emotionally distressed, including those with internalizing and externalizing behavioral problems. Hours spent in the classroom for discussion and fieldwork can range from 8 to 14 hours a week.
Field Studies of the Elderly	HD 143	This course can vary from 4 to 6 units and is traditionally offered during winter quarter. In HDE 143, undergraduates have a community engaged opportunity where they get to develop a research project that focuses on adult development and aging. In this class, undergraduate students have the opportunity to work with older adults in a variety of settings, and develop skills relevant to that application. Hours spent in the classroom for discussion and fieldwork can range from 8 to 14 hours a week.
Field Study in Agricultural Development-California	IAD 195A	A 3-unit upper division class offered to students in the International Agricultural Development upon instructor's permission. In this course, students travel and observe agricultural development strategies and their effects on rural communities. The instructor's method for expanding the undergraduate education begins with discussions amongst farmers, workers and organizational staff members. In this class, undergraduate students study farm commodities, institutions, and experiences based off of farmers, workers, and others who deal with agricultural development problems. Students study the effects international influence has had on U. S. agriculture.
Green Building, Design, and Materials	LDA 140	Students work with a community partner and evaluate a landscape or site for its level of sustainability.
Community Participation and Design	LDA 141	Students study community participation impact on sustainable design. Undergraduates examine a range of ideas about participation in design and practice the skills needed to engage communities in meaningful and empowering ways. This course tends to benefit the community served more so than the student-learners. Past community partners include Oak Park Community Gardens (Sacramento), Civic Land Use Plan (UC Davis Long Range Development Planners), Marguerite Montgomery Elementary School (South Davis), and Student Family Housing Redevelopment (UC Davis).
Restoration practicum	PS 164	Biweekly five hour meetings are held throughout the quarter. After three quarters of practicum, undergraduates are considered to have completed their required internship credit. Faculty provides oversight and graduate student TA's choose projects for the class. Undergraduates work in the field with professionals and nonprofits to complete projects. Students work in conjunction with graduate student TAs to choose projects. The program emphasizes practical experience as well as networking opportunities.

Sustainable agriculture and food systems Capstone 1 and 2	SAFS 191A and 191B	The first quarter of the capstone course, students create groups and work with a client to develop a proposal, create a needs assessment, and make sure the proposal is relevant and useful to the client while considering the broader implications to the community. Clients of the Capstone CEL course can be from any sector, but largely consist of NGOs. Most clients are from the local region, and go as far as Fresno. Examples of these clients include Food Policy Councils, Yolo Farm to Fork, Food Commons Fresno, and PowWow Energy Company.
Global Poverty: Critical Thinking & Taking Action	SAS 121	focuses on world poverty, its causes and effects, and explores the global debate about how best to alleviate it. Macro policy and micro interventions. Learn about global disparity in economic growth and development strategies. Is foreign aid a help or hindrance? Explore strategies targeted at raising the standard of living the poor.
Global Perspectives—Reflections on Working Abroad	SAS 198	This 2 unit P/NP seminar is for students who have worked or traveled abroad and are interested in exploring this often, life-transforming experience.

Appendix E. Departmental/Institute Comments

Department of Agricultural and Resource Economics Comment:

UNIVERSITY OF CALIFORNIA, DAVIS

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SANTA BARBARA • SANTA CRUZ

Address reply to:
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COLLEGE OF AGRICULTURAL AND
 ENVIRONMENTAL SCIENCES
 AGRICULTURAL EXPERIMENT STATION

January 7, 2021

Dear Executive Associate Dean Tjeerdema,

The Agricultural and Resource Economics faculty reviewed the draft college strategic plan. Overall, the objectives are consistent with ARE's goals as a faculty. The faculty discussion surfaced four topics for consideration.

First, the tenor of the strategic plan is that the college will accomplish more research. However, the faculty is roughly ten positions over target. How will shrinking the faculty and accomplishing more research happen concurrently? ARE faculty had one hypothesis: hiring soft-money researchers is one way an individual faculty member can conduct and publish more research. If this is the direction the college wishes to pursue, then the ARE faculty caution that there is a tradeoff between hiring more soft-money researchers and mentoring and funding graduate students and post-doctoral scholars. Related to this, research mentoring is time-consuming. Additional emphasis on research volume will disincentivize mentoring itself as well as employing graduate students and post-doctoral scholars.

Second, while outreach and extension are called out explicitly in the plan, the question remains as to how translational research and community-based research will be categorized and valued. Will/how will the college measure faculty research productivity under this plan? Faculty members have different perceptions of how this work is currently valued and how it should be valued.

Third, as illustrated by the two previous items, there is a lack of metrics for progress toward the plan's goals. While ARE's understanding is that the college plan update was not designed to integrate it with the campus strategic plan, the campus plan does include metrics. If some of the campus metrics fit with the college's goals perhaps it would be useful to incorporate them.

Finally, the discussion of education does not address international students and their needs for support. Advisors who specialize in working with international students could aid them in navigating the system, perhaps improving their time to degree.

Thank you for the opportunity to provide input on the strategic plan. ARE greatly appreciates the work that the committee put into developing it.

Sincerely,



Rachael Goodhue
Chair, Agricultural and Resource Economics

Department of Biological and Agricultural Engineering Comment:

Biological and Ag. Engineering, UC Davis

December 30, 2020

Ron Tjeerdema, Executive Associate Dean
College of Agricultural & Environmental Sciences
University of California, Davis

Dear Dean Tjeerdema:

This letter is in reply to your request for departmental input on the 2020 Academic and Strategic Planning Committee report. After reviewing the report we offer the following comments and suggestions.

We generally support the approach taken by the 2020 ASPC in maintaining the four themes and mission from the 2015 ASP. We suggest that like climate change, the COVID19 pandemic represents one of the global challenges of our time and while we would like to hope that it is a short-term crisis, it is very likely to be impactful for both the CA&ES and the world in the 5-year timeframe of the 2020 ASP. We believe that CA&ES can serve an important role, both in addressing issues of the current pandemic as well as in helping our college and society prepare for possible future pandemics so that we do not have to repeat the tragic loss of life and harm to the quality of life that the current pandemic has caused. Even if the pandemic is not prioritized at the theme level in the ASP, at a minimum, we believe that the pandemic deserves more than a brief mention on page 18 of the ASP. Within the 5-year timeframe of the 2020 ASP, the adverse effects of the COVID19 pandemic by any measure are likely to be more severe than those of climate change. The ASP should include priorities for new initiatives for virtual communication and college infrastructure for publishing and sharing detailed technical knowledge and information created in the college and access to digital agricultural and environmental college facilities of the future. Many industries are openly discussing not returning to the same level of pre-pandemic co-location of human resources and the pandemic imposed use of virtual conferences, lectures and meetings provide an opportunity for better access of information on the world stage. Thus it is important that the 2020 ASP contain a larger context of the challenges and opportunities that the pandemic has provided.

In reviewing section VII on the priorities and recommendations for the ASP, we found the recommendations for short-term actions to be uninformative, but rather a repetition of the information presented in section V. We recognize the ASP to be a high-level discussion for college planning, but as those who will be directly impacted by the ASP, we were disappointed in the lack of information contained in this section of the document.

As one of the few departments that is fundamentally transdisciplinary we support the ASPC's recognition that the ASP should devote resources to strengthen the integrative capacity and transdisciplinary capabilities of the college. Many of our recently hired faculty suggested that the implementation strategies for the ASP do not adequately address the need for training of faculty and staff in organizational socialization in the depth and breadth of infrastructure, capabilities and expertise in the college or campus. This type of training is critical if we are to achieve the ASP goals for creating a faculty and staff that can excel at accomplishing the three ASP goals. Many, upon reading the ASP report, observed that they learned things about the college's infrastructure, capabilities and expertise for the first time. This clearly demonstrates that the college is challenged by compartmentalism and that if we are to position the college to achieve its goals in the ASP effort must be made at both the departmental and Dean's office level to better share information about new and existing

Biological and Ag. Engineering, UC Davis

infrastructure, capabilities and expertise in the college and campus. Some suggest that organizational socialization be incorporated in the merit evaluation process for recent hires to incentivize them in learning as much about the resources in the college and campus as possible at the early career stage.

Respectfully,



David C. Slaughter
Professor and Chair of Biological and Ag. Engineering Planning Committee

Department of Entomology and Nematology Comment:

Ronald Tjeerdema

From: Steven Nadler
Sent: Wednesday, January 6, 2021 3:05 PM
To: Ronald Tjeerdema
Subject: Re: Draft ASP Report

Hi Ron,

So far I've received no responses from our faculty regarding the 2020 CAES ASP. I'm not surprised, although maybe some sent them on directly? Probably not. But I've looked it over, and so perhaps my brief comments will need to represent Entomology and Nematology. Thanks. -Steve

1. This is a well-written plan, and with the addition of materials from the 2015 plan (as an appendix), it is comprehensive. On the other hand, at 40 pages, it is a bit unwieldy. By that I mean it is hard to conceptualize the entire plan without spending time going through the sections. It is searchable and indexed, yet it would be better in my view if it was more concise.
2. I think the list of strategies to meet goals shows that much creative thinking went into developing the report. There are some great ideas here. However, I suspect we only have the resources (both people and financial) to take on a small fraction of these strategies. What is missing is a realistic prioritization of strategies by the College. Alternatively, we could let departments pick and choose from these strategies as they see fit, but I don't think that would be the best way to proceed if we want to have the greatest synergy and impact with available resources.
3. There is little I could find in the report about Aggie Square. Personally I'm not a fan of that project, but if it does move forward (gain funding), then CAES will no doubt want to be a vital part of this. Where does this fit in our planning?
4. The World Food Center is only mentioned in a couple of place in the report, and what is stated is that "*The World Food Center was moved to the college two years ago and is now under the direction of AD Ermias Kebreab. Its mission is to mobilize the resources of UC Davis to promote innovative, sustainable and equitable food systems.*" Is that really all we can say about it for planning purposes? I don't want to single it out relative to other Centers (but the name is **World** Food Center), but if we cannot say more, then I think we need to have a discussion as a College about continuing to invest in it or perhaps changing its name to something less grandiose.

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Department of Environmental Science and Policy Comment:

UNIVERSITY OF CALIFORNIA, DAVIS

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14 Oct. 2020

Dear Dean Dillard and Associate Deans,

On behalf of the Department of Environmental Science and Policy, thank you very much for the opportunity to comment on the College's Draft Academic and Strategic Plan. Like its immediate predecessor, the 2015 Academic and Strategic Plan, the new draft Plan is a visionary document that positions the College for continued and expanding excellent in education, research, and outreach. We believe that ESP with its unique integration of the natural and social scientists is well positioned to contribute to all aspects of the new Plan.

In our comments below, we focus mainly on the Implementation Strategies, and we recognize that full realization of these strategies would require significant new resources that are not presently available. Thus, where possible, we have largely emphasized 'low-cost' modifications to the implementation strategies.

Under **Implementation Strategies for Goal 1**, we encourage CA&ES to:

- (1) Change its internal culture and weighting formulas so that small-class, experiential, and graduate teaching are rewarded in the merit and promotion process commensurately with their importance to the College's educational mission.
- (2) Demonstrate its commitment to evidence-based pedagogy by doing away with numerical teaching evaluations and strengthening its reliance on peer and expert teaching observation and mentoring/feedback.
- (3) Demonstrate its commitment to educational equity by providing incentives and training to faculty.
- (4) Expand the opportunities for career development for emerging pathways in environmental science and environmental policy, as well as for emerging pathways in agriculture, biotechnology, food systems, and communities.
- (5) Create new educational opportunities by including CE Specialists in the teaching mission. This could be accomplished by giving them teaching credit and release from ANR. The wealth of knowledge embodied in CE Specialists is a rich and nearly untapped educational resource.

Under **Implementation Strategies for Goal 2**, we encourage CA&ES to:

- (6) Help our investigators compete for funding by encouraging the Office of Research to recognize reduced IDC rates for state and nonprofit-funded grants.
- (7) Likewise, encourage OR to accept reduced ‘off-campus’ rates for field-based projects as is standard at other UC campuses.

Under **Implementation Strategies for Goal 3**, we encourage CA&ES to

- (8) Change its internal culture so that off-campus public service is genuinely and significantly valued in the merit and promotion process.
- (9) Integrate its CE specialists better into the academic community by pressing ANR to be more accepting of split IR/CE appointments, and by locating CE specialists on campus where they can collaborate with other faculty on research and outreach.
- (10) Finally, under the thematic area of **Ecosystem Viability and Functionality**, we suggest that Invasive Species and Altered Fire Regimes be added to the list of major global stresses.

We again sincerely thank the Dean’s Office for this opportunity to comment, and the ASP Committee for its extensive work producing this draft plan.

Sincerely,



Susan Harrison
Chair, Dept. Environmental Science & Policy

Susan Harrison
Professor & Chair
Department of Environmental Science and Policy

Member, US National Academy of Sciences
Fellow, Ecological Society of America
Fellow, California Academy of Sciences
Fellow, John Muir Institute of the Environment

Department of Environmental Toxicology Comment:**ETX Comments on Draft 2020 CA&ES Academic and Strategic Plan**

The plan is thoughtful and contains many admirable goals. We support these goals and believe our activities are fully consistent with them. We have two recommendations. The first will help the campus align with state and federal agencies, and the second will integrate efforts of at least several departments in the College to address a major and growing public concern. Both will have positive effects on College outreach.

Adjunct Title with Teaching Emphasis

One of the goals of the CAES plan is for us to improve our alignment with state and federal agencies. We can do that in part by providing an adjunct title with a teaching emphasis for experts from such agencies to participate in our teaching programs. At present, these experts usually face barriers in the merit/promotion process, which emphasizes publication in peer reviewed journals. This criterion for success is appropriate for adjuncts focusing on research but not for those focusing on teaching. The latter often are involved in high level analysis of public policy and regulatory initiatives, commonly resulting in reports and publications that do not appear in standard journals. Often such reports undergo critical in house peer review. This activity needs recognition in the merit/promotion system. Finding an appropriate title for such adjuncts will benefit the campus by strengthening our teaching programs. It will also provide a benefit to the agencies (and our students) in their quest to find qualified recruits. As a good example, ETX has a strong connection with CalEPA. The latter offers internships for students who are recruited by their employees (national experts) when they lecture in our courses. At least several departments in CAES have expressed a strong interest in establishing a title for adjuncts who are anticipated to serve in this way.

Food Authentication

The interconnectedness of the world's food supply has raised the stakes for ensuring food safety and quality to an unprecedented level. The extraordinary globalization of food manufacturing at all levels of the supply chain means that it is now common for a food or ingredient to originate in one country, be sold through a third party broker in another, and ultimately travel elsewhere to be manufactured into a finished product. At the same time, consumers expect information and confirmation about where and how foods are produced and processed.

Such a complex system poses inherent risks, including a significant and emerging threat to food quality and safety worldwide. An estimated 10% of food products in retail stores contain some degree of adulteration (National Center of Food Protection and Defense), and the global incidence of food fraud has increased by 60% over the past 3 years (US Pharmacopeial Convention). Fraudulent foods cost producers and consumers billions of dollars every year (Grocery Manufacturers Association). Many tactics can be used to lower the economic value, and potential safety, of foods including: replacing high value ingredients with lower value ingredients, using additives to mask quality, and adding chemicals to mislead standard testing methods. Examples of these include: diluting high value juices (e.g. acai, pomegranate) with lower value juices, diluting honey, maple or agave syrup with corn or other sweeteners, adding

dyes to color spices among others. A tragic example is the 2008 Chinese milk scandal, in which infant formula was intentionally adulterated with melamine in order to artificially inflate its protein content. The adulterated milk supply resulted in six deaths and an estimated 54,000 hospitalizations and triggered recalls and import bans as far afield as the European Union and the United States.

Consumers, industry representatives, and regulatory agencies are demanding new ways to authenticate rapidly our food and beverage supply. Meeting this urgent need will require an interdisciplinary understanding of plant and animal genetics and biology, agricultural production practices, analytical chemistry, and food processing and engineering. The Robert Mondavi Institute for Wine and Food Science (RMI), the Honey and Pollination Center, the Olive Center, and the World Food Center all have programs that will benefit from an enhanced focus on the science of food and beverage authentication. Such enhancement will raise the caliber and impact of the work currently underway across the university, and will establish UC Davis as the leader in this field. It will integrate our expertise in a variety of departments and provide research work for numerous undergraduate, MS, PhD and postdoctoral trainees, the experts of the future.

Department of Food Science and Technology Comment:

CAES Academic and Strategic Plan 2020
Response from Department of Food Science and Technology
2020-12-16

The Department of Food Science and Technology (FST) thanks the committee for their work in updating the 2020 CAES Academic and Strategic Plan (ASP) and for the Dean's office for providing this opportunity to comment.

FST comments fall under three broad categories.

1. The goals and guiding principles were relatively clear but short and long-term actions were too vague and lacked metrics to evaluate or measure success.
 - a. Short-term goals need to be more specific including how, when, and identifying the needed resources.
2. The COVID-19 pandemic should be viewed as an opportunity to re-assess our teaching, research, and service with a goal of increasing the resiliency of the college as well as our stakeholders.
 - a. It would be useful to initiate a formal assessment of with a goal of identifying those things that worked well and those that did not. Will we return to business as usual at the end or should we try to enhance our programs using the experience gained through this event?
 - b. Should we be preparing for the next “pandemic” or similar event? Should the college have a playbook for the college and our stakeholders?
3. There is opportunity to more effectively leverage existing campus resources to achieve some of the goals outlined in the document.
 - a. Provide increased opportunities for interdepartmental engagement. For example, several faculty in FST were unaware of the vertical farm. Is there a way to better engage or explore cross-disciplinary uses of existing and new facilities? To this end, should there be more specific recommendations on fostering communication and engagement across the college?

Department of Land, Air and Water Resources Comment:

UC DAVIS LAND, AIR AND WATER
RESOURCES

January 7, 2021

Helene Dillard, Dean
College of Agriculture and Environmental Sciences

LAWR Response to the CA&ES Academic Strategic Plan

Dear Helene:

Thank you for the opportunity to comment on the CA&ES Academic Strategic Plan. LAWR solicited written departmental feedback on the draft version. We appreciate the overall spirit of the plan and felt that it effectively builds on and complements the 2015 plan. The feedback from LAWR focused on advancing four themes:

1. Updating and affordability of College research facilities

Core facilities like the Century Experiment, Student Farm, etc., are outdated and are becoming cost prohibitive to conduct experiments and provide experiential learning opportunities. The College should pursue alternate funding sources, i.e., through fund raising to help support faculty and modernize facilities to maintain College strengths needed to support teaching programs. The college may consider forming a taskforce to address these concerns. Improving our facilities is critical and would greatly promote “Experiential Learning” opportunities for CAES majors.

2. Support for undergraduate, graduate & postdoctoral training, fellowships, and retention

We strongly feel that additional support is needed to support undergraduate, graduate & postdoctoral education and training. It is particularly important to provide experiential learning opportunities for undergraduates. We also feel strongly that a college taskforce charged with querying industry and government is needed to both update curricula in all majors and provide programs and opportunities for experiential learning.

3. Incorporating and rewarding DEI in research, teaching, and outreach efforts

The plan mentions DEI as a criterion in considering the hiring of new faculty. We suggest going a step further and elevating DEI to the same level as teaching, research and service in merits and promotion to ensure all students and post docs are fully supported and their well-being safeguarded.

4. Ensuring that land (soil), air, and water resources are well-integrated into the plan

We want to ensure that natural resources are considered as an important component under

all priority themes of 1) Sustainable Agriculture and Food Systems; 2) Equitable and Healthy Communities; 3) Ecosystem Viability and Functionality; and 4) Meeting the Challenges of Climate Change.

Additional feedback: (Track change document can be provided)

1. Page 9, 3rd Paragraph. ‘inner cities’ is a colloquial term with no formal census designation and a troubled history—we suggest avoiding it.
2. Page 9, 4th paragraph. Please add “healthy soils” to ecosystem services
3. Page 11, 1st paragraph, second line. Consider changing “Curricula must be rigorous, inclusive, and integrated across areas of faculty and departmental expertise.” To: Curricula must be rigorous, inclusive, and integrated across areas of faculty and ~~departmental expertise~~ and that is relevant to the needs and challenges of society.
4. Page 11, 1st paragraph. Comment on: The college should lead.... Student success is not only impacted by teaching methods and best practices but also by the support structure students have (e.g. food security, housing, teaching supplies such as laptops, mental support). We would like to see some language in here that addresses these needs. Suggest adding last sentence to this paragraph such as: “Additionally, the college should focus on building equity through increasing support structures for students to ensure that they have food security, affordable housing, mental/emotional support, and the supplies needed for success.”
5. Page 11 2nd Paragraph. Comment: A critical path to achieve this in the 21st century has been the development and rapid embrace of “micro-credentialization” at leading, entrepreneurial universities. UCD and UC as a whole is not an entrepreneurial university system in teaching, so it has fallen far behind on teaching innovations. The only micro-cred effort at UCD is Grad Pathways, which is very successful. We recommend CA&ES move quickly via this lane to develop its micro-credentialization framework and try to catch up before it is too late.
6. Page 12. General comment: To ensure student success and well-being, faculty should be rewarded for diversity, equity and inclusion efforts in merits and promotions.
7. Page 14, paragraph 4. The following sentence “State of the art and well-maintained research environments are critical to faculty and staff productivity and research excellence.” should be changed to “State of the art, well-maintained, and affordable research environments are critical to faculty and staff productivity and research excellence.
8. Page 20, Recommendation 3. Value efforts in DEI equally to research and teaching and recognize and weigh such activities appropriately in merit and promotion actions at the department and college (FPC and JPC) levels.
9. Page 21, under Goal 1, number 2. Form an advisory committee (industry, policymakers etc) in the development of curricula. This was done through a Delphi Survey to help develop the Sustainable Agriculture and FOOD Systems major.
10. Page 21, under Goal 2, number 5. To ensure DEI accountability after appointment, include efforts in DEI in merits and promotions at the same level as research, teaching and outreach.
11. Page 22, Under Sustainable AG and Food Sys, include waste (manure and food) recycling.
12. Page 24, under III. Ecosystems Viability and Functionality. Add bullet point: “Assessment

Commented [MOU1]: Add: and that is relevant to the needs and challenges of society

Commented [MOU2]: Add: and that is relevant to the needs and challenges of society

of habitat abundance, quality, and connectivity in the face of fragmentation due to excessive and destructive land use”

13. Page 24, Under IV. Meeting the Challenges of Climate Change. Under Climate Science change “Climate science (**understanding and projecting climate variabilities and changes; characteristics and impacts of a changing climate on all ecological landscapes both human-dominated and natural**)
14. Page 25, Fig 1. We recommend that the committee add "Habitat abundance, quality, and connectivity" to the Ecosystem viability green area that has no overlap with the other two circles. Habitat should be identified explicitly, not subsumed under the generic topic of biodiversity.

I hope you find our specific feedback and comments useful. They represent input from the faculty of LAWR who value the opportunity comment on this important document. We encourage you to continue to consult with CA&ES faculty to ensure the Academic Strategic Plan is fully implemented to ensure the strength of our programs in educating students and post docs through scholarship and experiential learning.

Sincerely,

William Horwath
Chair, LAWR

Cc:

Jorge Rodrigues, Vice Chair
Helen Dahlke, Vice Chair
Shu-Hua Chen, Vice Chair
Chris Crum, CAO

Department of Plant Sciences Comment:

UCDAVIS

DEPARTMENT OF PLANT SCIENCES

Feedback from the Department of Plant Sciences on the implementation strategies for the college Academic and Strategic Plan was gained through surveying the faculty and through three separate meetings, each for goals 1, 2 and 3, where a one hour discussion was held. The following points represent the top priority comments on the document.

Comments on implementation strategies for Goal 1: *High quality, supportive, and diverse learning environments, and educational opportunities to promote student success and well-being*

The Department of Plant Sciences had the following feedback for consideration by the committee:

1. A major outcome of the survey of Plant Sciences faculty was the *strong commitment to experiential learning and how, in a post-covid world, where lectures may be readily delivered online and virtual, our future enterprise should be focused on delivering the highest quality (in terms of breadth and depth) experiential learning, to cement an unrivalled world-class position in training the next generation of Ag and Environmental Scientists.*
 - a. This led to a discussion on how we scale experiential teaching to large classes. We need larger and improved teaching laboratory facilities, better field facilities and better interactive computational facilities. There was a general recognition that teaching is unlikely to return to the pre-covid norm and this required some urgent thinking on how to invest in future teaching to ensure excellence.
 - b. Credit allocation for laboratory-based courses should be reconsidered since at present, they required the greatest contact for the least credit.
2. Scholarly innovation and training for faculty was rated as a priority however it was proposed that our student cohort still have issues around diversity and this requires some explicit action to ensure we address this in the delivery of teaching. The Diversity Teaching Fellows were seen as a useful option.
3. There was strong support for improved educational excellence that involved increased training towards non-academic jobs. The suggestion was to develop training that included alumni returning to explain diverse career choices and the wide range of opportunities available to our graduates. More active internships options and better support for internship placement should be considered although excellent exemplars were available in some areas e.g. Seed Central and the seed industry.

Comments on implementation strategies for Goal 2: *Excellence, innovation and meaningful impact as a global leader in agricultural, environmental and societal research*

The Department of Plant Sciences had the following feedback for consideration by the committee:

1. The top priority to achieve continued excellence in research was the development of improved facilities and infrastructure. *Many of our facilities are outdated (greenhouse and field and controlled environments, along with major critical equipment) and need urgent investment.* We are in danger of lagging behind our competitors unless an urgent college-wide plan is put in place to address this.
2. Foundational strengths within departments should remain central in driving new appointments to ensure continued excellence and it was also acknowledged that some of the interdisciplinary activities in CAES may be over-mature and of less value than disciplinary activities in departments if budgets are limited. *Disciplinary excellence must come before interdisciplinary endeavor.*
3. Support for high risk research through seed funding was also seen as valuable, sparking *new cross- college initiatives for the future.*

Comments on implementation strategies for Goal 3: *Extend the influence of our research activities beyond the boundaries of the university*

The Department of Plant Sciences had the following feedback for consideration by the committee:

1. *There was a strong commitment to the concept that CE specialists should be embedded in departments* since that was foundational in enabling the research continuum from discovery to implementation of research findings to be achieved that was central to the land grant mission and the mission of the college. At the current rate of loss of CE appointments within departments, the system as we know it, would be irretrievably broken over the next decade and this required some urgent partnering between CAES and ANR to ensure a sustainable future. Faculty expressed their concern that two requests for new CE appointments had largely gone unfunded over the past several years. *Discussions on the future should engage faculty to develop innovative ideas to address this concern.*
2. There was strong support for better integration of students (undergraduates and graduates) into training programs, working alongside extension specialists. Bullet point 3 – implementation of new programs was seen as a priority.
3. There was a general agreement that partnerships between ANR and CAES should be *increased and improved*, both from bottom-up (joint proposals and projects) and top-down (a shared strategic vision) enabling science based solutions for a sustainable future. Achieving this might include incentives for partnering grant proposals, an improved annual meeting that is more interactive.

Robert Mondavi Institute Comment:

10

help steer the college toward achieving the goals. Implementation strategies for each goal are highlighted in a call-out box, and are meant to be suggestions rather than exhaustive or exclusive.

Goal 1: Provide high quality, supportive and diverse learning environments, and educational opportunities to promote student success and well-being to meet the challenges of a changing world.

As a university of higher education, a core component and mission of the college is to provide an effective learning environment for undergraduate and graduate students that is accessible, equitable and inclusive. A core philosophy of the college is to help students of every background see themselves, their experiences, and their history as integral to the future of agricultural, human, and environmental sciences. We have the opportunity to communicate this value to our students through our classroom instruction, our interactions with students, and by providing high quality educational opportunities. As such, the college should create guidelines, policies and professional development that continually improve the learning context for all students, ensuring they have an equal opportunity to learn and thrive in the academic community. The result should be that every student feels valued and included, receives the support needed to graduate on time, and has gained the skills to meet the challenges of a diverse and changing world.

Guiding Principles:

The College of Agricultural and Environmental Sciences fosters diversity and integration across all areas, where students of every background see themselves, their experiences, their families, and their history as integral to the future of agricultural, human, and environmental sciences. The implementation of this principle will require adoption of evidence-based innovative and experiential teaching methodology taught by a diverse set of faculty who represent the student body. Curricula must be rigorous, inclusive, and integrated across areas of faculty and departmental expertise. The college should lead in the use of equitable, effective teaching methods through increasing collection, analysis, and dissemination of new and existing data to guide more widespread implementation of best practices within the college.

Active, experiential learning at top-notch facilities that reflects modern, forward-thinking approaches is essential for the intellectual development of solution-oriented, critically-thinking leaders. The college has an important responsibility to educate the next generation of students and effectively prepare them for future careers. We are uniquely suited, and indeed given the breadth and expertise of our research faculty, obligated to provide experiential learning that is directly applicable to diverse future careers. The college should engage stakeholders to identify the skills and experiences they value most in our recent graduates, and document any gaps in student training and experiences that may be present. Such information should be used to improve teaching and other learning experiences so that the college may continue fostering excellence in scientific mentoring at the undergraduate, graduate and postdoctoral levels, and provide instruction, networking, and hands-on training to meet diverse career trajectories in industry, government, public policy, and academic appointments.

[Undergraduate and graduate students should be trained in the leadership skills needed to implement necessary change. The 21st century will provide significant challenges in terms of environmental turbulence, but perhaps even more so in terms of challenges to science and social fragmentation. Our graduates should be prepared to assume leadership positions to provide the state and beyond with well-informed leaders who can discern sound policy options, but also explain and promote those solutions. \(CE Specialists may have the best skills to provide this training.\)](#)

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Department of Viticulture and Enology Comment:

UNIVERSITY OF CALIFORNIA, DAVIS

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COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES
 AGRICULTURAL EXPERIMENT STATION
 COOPERATIVE EXTENSION
 DEPARTMENT OF VITICULTURE AND ENOLOGY
 TELEPHONE: (530) 752-0380
 FAX: (530) 752-0382

ONE SHIELDS AVENUE
 DAVIS, CALIFORNIA 95616-8749

January 5, 2021

Dean Helene Dillard
 College of Agricultural and Environmental Sciences
 University of California
 One Shields Avenue
 Davis, CA 95616

Dear Dean Dillard:

As per your request, the Department of Viticulture and Enology is taking this opportunity to provide you with comments on the current update of the CA&ES Strategic Plan. The department would like to thank the committee for their thoughtful work and comprehensive draft plan. Our comments are as follows.

The faculty found the strategic plan to be high-level and broad enough to cover our core missions of teaching, research, and extension. Broadly, faculty felt that the plan should show more connection to and coordination with UCANR, especially as our department and the College are highly dependent on CE Specialists and county-based farm advisors to fulfill our missions. It was also noted that there is a distinction between public outreach and industry-focused extension and continuing education. Some departments do one or the other and some do both, but they are quite distinct. The plan, as currently written, focuses more on public outreach. We feel that the same amount of emphasis should be given to extension programs serving California agriculture and industries. The remainder of our comments and suggestions fall into the three core mission areas of research, teaching, and extension.

Research

Faculty felt that the report should identify key core facilities to strengthen or establish that would enable research across departments and disciplines. These resources would also keep us on the cutting edge and make the College and campus more attractive to the best faculty candidates. Examples include:

- Digital agriculture
- Genetic/genomic tools
- CRISPR Center
- Microbiome Center
- Mathematical Modeling tools
- Centralized biological collections (to preserve, study and exploit existing biodiversity)

- Sustainability and climate change

Teaching

Faculty felt that the principles in this section were strong. They commented that more specific ideas should be put into the plan for recruitment of a diverse student population, with activities at the College level coordinated with additional efforts at the departmental level. Faculty also felt that our experience with the pandemic points to a need for increased training of faculty to be effective instructors in a variety of (changing) circumstances. This would include understanding when to continue on-line learning, even past the end of the pandemic, and when to blend on-line learning with hands-on experiential learning.

Extension

It is clear that our extension efforts are short staffed and this is unlikely to change in the near future (or maybe ever). Therefore, there should be an emphasis in our strategic plan on how to achieve our extension goals with fewer people (especially fewer faculty/CE) and resources. Faculty felt that we should engage stakeholders to fund new CE or staff positions (or existing ones) or to create commodity-specific endowments for CE positions and extension activities. They also felt strongly that the plan should state that the College should take the lead in educating FPC's, CAP, and the Vice Provost for Academic Affairs on the importance of extension and that it should be specifically incentivized for merits and promotions, as it is not currently. Finally, faculty felt that it would be an excellent strategy to combine and/or coordinate student recruitment and outreach/extension as, in normal times, our faculty are traveling throughout the state on a regular basis. This could be an important opportunity to increase diversity in our outreach efforts and in our classrooms on campus.

Again, we appreciate the opportunity to comment on the draft strategic plan and would be happy to provide additional feedback or clarification on our comments, if necessary.

Best Regards,



David E. Block
Professor and Marvin Sands Department Chair
Department of Viticulture and Enology

Cc: V&E Faculty
EAD Ronald Tjeerdema
AD Anita Oberbauer

Department of Wildlife, Fish and Conservation Biology Comment:

From: [Nann A Fangue](#)
To: [Ronald Tjeerdema](#)
Cc: [Brenda Nakamoto](#)
Subject: Re: Draft ASP Report
Date: Tuesday, November 17, 2020 7:14:35 AM

Dear Ron,

Our faculty reviewed the Draft 2020 CA&ES Academic and Strategic Plan at our October faculty meeting. John, as a member of the planning committee, provided an overview. Faculty were asked to bring comments for discussion at our November faculty meeting. Overall, WFCB is pleased with the content of the plan and have no additional comments to offer.

I wasn't sure if I should send this to you, or to everyone listed on the email, so I chose to send to you and Brenda anticipating that you have a mechanism to compile all of this and to save everyone an extra email.

Thanks to you and the various committees involved in developing this important document.

Best wishes,

Nann

Nann A. Fangue, Ph.D.
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Editorial Board, *Conservation Physiology*

UC Davis Chancellor's Fellow, 2017-2021

POTENTIAL GRAD STUDENTS, Check out this new training program:
<http://sustainableoceans.ucdavis.edu/program/>

From: caeschairs-request@ucdavis.edu <caeschairs-request@ucdavis.edu>
Date: Wednesday, October 7, 2020 at 2:04 PM
To: caeschairs Sympa List <caeschairs@ucdavis.edu>, caesdeptmanagers Sympa List <caesdeptmanagers@ucdavis.edu>
Cc: Policy Council <PolicyCouncil@caes.ucdavis.edu>, Jorge Luiz Mazza Rodrigues <jmrodrigues@ucdavis.edu>, Russ Hovey <rchovey@ucdavis.edu>, Brenda Nakamoto

Appendix F. CA&ES Faculty Executive Committee Comment

EXECUTIVE COMMITTEE
FACULTY OF THE COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES
ACADEMIC STAFF OF THE DIVISION OF AGRICULTURE AND NATURAL RESOURCES
OFFICE OF THE DEAN AND DIRECTOR OF PROGRAMS

January 28, 2021

RonTjeerdema
Executive Associate Dean

RE: CA&ES Faculty Executive Committee (FEC) response to the Academic and Strategic Plan 2020 Draft

Dear Ron,

The CA&ES FEC had the opportunity to review the Academic and Strategic Plan (ASP) for our College and read the comments provided by the Departments. The FEC was pleased to learn that the College had plans to review the previous proposal, evaluate our achievements, and articulate our goals for the next five challenging years ahead of us.

The four priority themes developed in the 2015 ASP were maintained in the 2020 report as they were deemed relevant to the current mission of the College. Instead of developing new areas/priorities, the 2020 ASP committee focused on the development of **clear goals and guiding principles for teaching, research, and outreach**. The FEC appreciates how the 2020 ASP report placed more emphasis on education/teaching needs as well as outreach and extension — explicitly focusing on communicating the benefits of our research activities beyond university boundaries.

Despite the benefits stated above, the FEC is concerned that the report does not provide concrete guidance on the implementation of the aforementioned areas. Many of the proposed guidelines were found to be vague and if taken in many different directions, it could potentially not lead to any implementation at all. The FEC is pleased to learn that an implementation plan is under consideration by the College Leadership and we ask that faculty representing different Departments to be invited to discuss the implementation process.

Feedback was solicited across the College and comments were received from 10 Departments and 1 Institute. Below, we present a synthesis of the common themes that emerged from the faculty comments.

Teaching

In general, there is a general recognition that teaching will not return to the pre-COVID standards. We understand that the ASP was developed prior to the COVID-19 pandemic, but our faculty suggested there is an opportunity to discuss how the College will invest in future teaching to warrant excellence. Faculty felt that their experience last year with the impact of the pandemic indicated a need for increased training of faculty and additional support with respect to on-line learning and increased assistance in terms of filming labs and editing videos to ensure high-quality production standards. The ASP should include priorities for new initiatives for virtual teaching and communication.

Given the strong commitment of the CA&ES to learning practical skills and the post-pandemic future, with lectures delivered on-line and virtually, the College should focus on delivering the highest quality experiential learning, (both in breadth and depth), to bolster an

Ron Tjeerdema
January 28, 2021
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unmatched world-class position in training the next generation of scientists in the agricultural and environmental sciences.

- i) There is a need to modify the criteria by which small laboratory-based classes and graduate teaching are evaluated and rewarded in the merit and promotion process commensurate with their importance to the College's educational mission.
- ii) Laboratory-based and practical teaching should be scaled-up to include larger class enrollment. To achieve this goal, larger and improved teaching laboratory facilities, upgraded field facilities, and better interactive computational facilities are needed.
- iii) Credit allocation for laboratory-based courses should be reconsidered since at present, they require the greatest contact for the least credit.

There are suggestions to create new educational opportunities by including Cooperative Extension (CE) Specialists in the College teaching mission. To facilitate this process, it was proposed by some faculty that UC Agricultural and Natural Resources (UCANR) create split appointments. Also, it was proposed to locate CE Specialists in Campus where they can collaborate with other faculty on research and outreach. It should be taken into consideration that there are differences in the way that CE Specialists are integrated in the teaching mission of the different Departments in the College, (i.e. some have CE specialists integrated to the teaching efforts, while others do not).

The FEC notes that support for international students was not addressed in the ASP.

Facilities

In order to achieve the ASP goals, efforts must be made at the Departments and Dean's office levels to better share information about the existing infrastructure and expertise in the College and Campus. The ASP does not adequately address the need of training. In addition to training, faculty, staff and students, researchers need clarification through an organizational framework to understand the depth and breadth of infrastructure, capabilities, and expertise available both through the CA&ES and campus more broadly. In addition to investing in facilities, investment should be made both in training to Faculty and the incentives to participate should be provided. This can promote correct use of facilities, thereby reducing misuse and extending the life of equipment and infrastructure.

The development of improved facilities and infrastructure is a top priority to achieve continued excellence in research. However, many of the College Core facilities are outdated, and it is becoming cost prohibitive to perform experiments and provide practical learning opportunities. The pursuing of alternate funding resources, (e.g. fundraising), to help support faculty and modernize facilities and the formation of a "task force" to address the improving and modernization of the College facilities are suggested.

Faculty felt that the report should identify key core facilities to be strengthen or established to support and facilitate research across departments and disciplines.

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Although the World Food Center is mentioned in the report, the contribution of the College to the Center (and vice-versa) is not discussed. Aggie Square is also missing from this report and there should be a description of how it fits in our college planning.

Merits & Promotion

The ASP call for the maintenance and advancement of outreach activities in the CA&ES. Nonetheless, it is unclear how the College measured research productivity that is associated with outreach and extension activities. Faculty members have different perceptions of how this work is currently valued and how it should be valued. This aspect is of importance, given the suggestions to integrate CE specialists in the College teaching mission, (see the section on Teaching above).

Our Faculty asks the College should take the lead in educating FPC's, Committee on Academic Personnel (CAP), and the Vice Provost for Academic Affairs on the importance of extension.

The report should also detail strategies for incorporating, incentivizing, and rewarding diversity, equity and inclusion (DEI) into research, teaching, and outreach efforts.

Extension

Undergraduate and graduate students should be trained in the leadership skills needed to implement the responses to the 21st century challenges. Our graduates should be prepared to assume leadership positions and serve as well-informed leaders who can discern sound policy options and explain and promote those solutions statewide, nationally, and globally. As a bridge between the academy and external partners in the public, private, and nongovernmental sectors, CE Specialists may have the best skills to provide this training.

Faculty felt that the plan should show more connection to and coordination with UCANR, particularly the Departments that depend on CE Specialists and county-based farm advisors to fulfill our missions. It was also noted that there is a distinction between public outreach and industry-focused extension and continuing education. Some Departments do one or the other and some do both, but they are quite distinct. The plan, as currently written, focuses more on public outreach. The same amount of emphasis should be given to extension programs serving California agriculture and industries.

Our faculty commented that the extension efforts of the College are short staffed, and this is unlikely to change in the near future. Therefore, there should be an emphasis in the ASP on how to achieve our extension goals with fewer CE positions and resources. Faculty felt that the College should engage stakeholders to fund new CE or staff positions or existing ones and/or to create commodity-specific endowments for CE positions and extension activities.

Faculty felt that it would be an excellent strategy to combine and/or coordinate student recruitment and outreach/extension since CE Specialists are traveling throughout the state on a regular basis, providing great opportunities to increase diversity in our outreach efforts and in our classrooms on campus.

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General

As the FEC reviewed our faculty statements, we noticed a few comments from our faculty expressing disappointment with section VII on priorities and recommendations due to the lack of information or unclear implementation – priorities and strategies – by the College. The implementation of the proposed strategies would require significant new resources that are not presently available.

Lastly, we thank you for the opportunity of summarizing our faculty comments on the Academic and Strategic Plan and provide suggestions as well.

Sincerely,



Jorge L. Mazza Rodrigues
Chair and Professor
CA&ES FEC
Land, Air and Water Resources



Daniela Barile
Professor
Food Science and Technology
ASP Subcommittee



Bernadette Austin
Acting Director
Center for Regional Change
ASP Subcommittee



Eduardo Blumwald
Professor
Plant Sciences
ASP Subcommittee

/bn