

## **Education and Leadership**

### **II. Formal Post-Secondary Education in Sustainable Agriculture and Food Systems**

#### ***Summary***

This initiative aims to further develop, strengthen and refine formal undergraduate and graduate educational opportunities in sustainable agriculture and food systems. This work will focus on continuing to develop the emerging undergraduate major in Sustainable Agriculture and Food Systems (SA&FS) and the graduate program in Agroecology at UC Davis. Collaborations with colleagues in California and elsewhere will coordinate sustainable agriculture education among community colleges, CSUs and UCs and conduct research to better understand student learning so as to advance curricula and courses in sustainable agriculture and food systems nationally. Mechanisms for recruiting, retaining and supporting diverse students in these programs will continue to be developed and strengthened.

#### ***Problem statement/ Baseline***

- There is a growing need for well qualified graduates to effectively address the opportunities and challenges of developing more sustainable agriculture and food systems and assume leadership positions in this area.
- Such graduates will need to possess and be able to integrate knowledge and skills from many fields, understand complex systems and solve multifaceted problems.
- There is strong, growing and largely unmet interest in sustainable agriculture and food systems among current and future undergraduate and graduate students.
- While overall agricultural faculty numbers may be declining in the US, students' and society's increasing interest in sustainability indicate a need for dedicating more educational effort and resources to this area.

#### ***Structural issues/ Broad drivers shaping change***

- Enrollments in agricultural and environmental courses and majors have been declining overall for many years; many agricultural schools have dropped courses and curricula that focus on issues at the farm and community level.
- Long term trends of increasing academic specialization have created challenges to developing strong multidisciplinary curricula that are knowledge and skill. intensive and in which students learn to address complex issues integrating across diverse disciplines.
- Critiques of the current agricultural educational system have emphasized the need for interdisciplinary collaborative learning experiences that are inquiry based and socially engaged, multidisciplinary and systems-based courses and curricula, and the inclusion of internships that are representative of the diversity of activities found in the agri-food system.

### ***Strategic opportunity***

- Undergraduate and graduate student interest in sustainable agriculture and food systems is growing rapidly in California, nationally and globally (this may help counter the long term trend of declining interest in agriculture generally).
- Increasing numbers of faculty and administrators see the importance of offering academic programs in this area.
- The number of sustainable agriculture courses, curricula and programs in California and nationally is relatively small, but growing quickly. Collaborations and partnerships can be formed with other institutions, including community colleges, directly and via organizations that facilitate cooperative projects.
- We have made significant progress in developing the SA&FS major and strengthening the Agroecology Ph.D. program; students are already being served by the SA&FS core courses and the SA&FS major proposal has been submitted.

### ***Desired outcomes***

- Increased numbers of alumni from sustainable agriculture undergraduate and graduate programs are professionally competent innovators, communicators and collaborators; they make important positive contributions to sustainable agriculture and food systems nationally and globally. They will include members of the next generation of farmers and leaders in these and other areas of society.
- Students from diverse backgrounds are attracted to strong programs focusing on sustainable agriculture and to their home institutions; these programs have positive impacts on students both inside and outside the programs; these students become informed and engaged life-long learners and their personal and civic decisions have positive societal impacts.
- Through combining educational practice and the scholarly study of it, sustainable agriculture curricula and educational methods are advancing significantly.

### ***Key Partners***

- Undergraduate and graduate students in agricultural, environmental, human sciences and other areas at UC Davis and beyond
- Teaching faculty, administrators academic advising and other staff involved in education at UC Davis
- Colleagues at other colleges involved in sustainable agriculture education, including other UC campuses, CSU campuses, California Community Colleges and many others throughout and beyond the US
- Those working with prospective UC Davis students at high schools and community colleges and other organizations working with these youth (e.g. FARMS, FFA, urban agriculture and food groups)
- International programs offices at UC Davis and elsewhere which serve students interested in sustainable agriculture internationally
- UCCE and others working in adult education

- Stakeholders in the agri-food system who will provide field trips, internships, paid positions and career opportunities for students and graduates
- Foundations and other financial supporters

***Activities***

- Continue fostering the development of Sustainable Agriculture and Food Systems (SA&FS) undergraduate major at UC Davis, including:
  - o Curriculum and course development and refinement
  - o Curriculum and course delivery and management, including: overall administration of the major, advising and internship coordination; support for course delivery and field components of the major (e.g., at Student Farm)
- Work with community colleges, other UCs, CSU campuses and other four- year institutions on curriculum, courses and articulation.
- Work with colleagues on campus, at high schools, community colleges, and organizations working with youth to recruit and retain diverse students into the SA&FS major.
- Continue fostering and strengthening relevant graduate programs at UC Davis, including the Agroecology and other graduate programs.
- Provide support for graduate students through graduate research positions, fellowships and the Sustainable Agriculture Graduate Awards (SAGA) program.
- Collaborate with colleagues to offer post-doctoral research opportunities.
- Collaborate with colleagues on campus and other national and international institutions to promote the study of sustainable agriculture and food systems by international students.
- Work with colleagues at UC Davis and other institutions to develop more effective methods of promoting student learning about agricultural and food system sustainability and participate in scholarship to better understand and improve student learning and its facilitation.

***Resources needed for 5 years***

Total need: \$1.1 million

- Advisor/Internship Coordinator and administrative support for major: \$200K
- Teaching assistants for core courses in the major: \$240K
- General teaching support for major, incl/ field activities assistance: \$190K
- Support for grad students – SAGA grants and GSR positions: \$460K
  - o SAGA (Sustainable Agriculture Graduate Awards) competitive grants
  - o GSR (Graduate Student Researcher) positions for thesis/dissertation research support

Current extramural funds: \$100K

Additional need: \$1.0 million