Hi Michael, David and Team,

Thanks for the comprehensive list of ideas. They clearly represent a great deal of thought and planning. Given that we have an hour to talk about all this on Monday, we thought it prudent to send this initial response to each of the summary recommendations. We think we can pass by the topics on which we agree and concentrate on the issues. Our comments are on your summary document and in red. At the end of your document we are also recommending other changes that affect the university system approach to agriculture that we think will provide a long-term enhancement to the system and the state.

A couple of things to note as we think about agriculture in Hawai‘i. Hawai‘i agriculture is decades behind where it should be. CTAHR should be a tropical leader in areas like Controlled Environment Agriculture, Integrative Agriculture, and Smart Agriculture on a small farm basis to boost income and more. We have been limited by on and off-campus facilities. We have been limited by lack of flexibility in some budget issues. We agree that the new CTAHR has to be focused with a first priority to Hawai‘i. We wish to be world-class, which means we also need to be globally engaged.

Over the past several years we have been moving in the direction that Pres. Lassner’s white paper outlined. We developed a 5-year staffing plan, which has been cut short by the pandemic. The purpose of that plan was to develop expertise in areas for the future. We have developed a task force with the College of Engineering because Ag Engineering was dropped from CTAHR years ago; this puts us in a position to address locally appropriate developments in Controlled Environment Ag and Precision Agriculture. We have a collaboration with SOEST on aquaculture; and our faculty collaborate closely with the aquaculture program in Hilo. In the future, we could certainly plan to have discussions about the overall shortcomings of Hawai‘i agriculture and how CTAHR can be better positioned to meet the needs of the state in addressing these issues.

Below, please find our ideas around the recommendations presented to us in red. The departments added preliminary comments, either in another color font below our, or as a separate document.

Summary of Recommendations

- Reorganize the Human Development & Family Studies program and faculty from Family & Consumer Sciences (CTAHR) to Sociology (Social Sciences). Will need to address the Center on Family and the 4H programs.
• Remove Human Resources from the name of the college.

Pros:
1. By moving to CSS, the FCS faculty will be able to offer graduate degrees that are not available within CTAHR.
2. By bringing FCS faculty together with like-minded social scientists we can see that interaction blossoming into something greater than the combination of the two.
3. There will need to be a name change.

Cons:
1. This will remove about 1/3 of CTAHR student semester hours.
2. We do not see any real budget savings from this change.
3. While other departments were given background on the recommendations, FCS was not provided the same. Would it be possible to provide that information for the department to better understand the thinking involved?

Evaluation:
What is missing in this approach are two things:
1. The Center on Family (COF), as indicated needs to be further addressed. The COF was initiated by legislation. What is the plan for COF? The COF faculty are mainly classified as Specialists. Would they best be classified as researchers? Assuming they go to CSS along with HDFS, we would stop reporting them as Extension faculty to USDA.
   (Subsequent discussions with COF since our meeting have pointed out that while FCS is not a priority of NIFA, the USDA has a distinct FCS program. The fate of COF does needs further discussion. One objective of that discussion to assure that Cooperative Extension stays in the college in order to maintain its integrity and provide adequate oversight for USDA.)
2. FCS also houses our 4-H program and an Extension FCS Agent on a neighboring island. 4-H (Heart, Health, Hand, Head) is the premier youth leadership program nationwide and has a major focus on agriculture. All 4-H Agents state-wide and 4-H specialists. 4-H is a program that has been shown to be well-connected with agriculture.
3. In order to maintain Cooperative Extension in the college, additional discussions are required, which may include changing the position description of some faculty, or finding a place for them in the college. We would find a place in existing departments for all Extension faculty currently in FCS, or pursue a proposal at the end of this report which deals with the development of a departmental home for Extension.

• Reorganize the Fashion Design & Merchandising program and faculty to the Department of Art and Art History (CALL).
   Hopefully, this would result in better facilities for the faculty and students, because what they have now is not good.

• Reorganize the Human Development and Family Studies program and faculty to the
Department of Sociology (Social Sciences).

Please see the discussion above.

- With support from the Dean and the Provost, CTAHR faculty should take the lead in working with the UHCCs on a coordinated AS-AG curriculum, similar to the AS-NS, to facilitate transfer and collaboration across the System.

As noted, this was initiated, but there are significant problems within the system that currently prevent this being done. We agree this is extremely important. We are excited to work on this, but in order to most effectively develop a state-wide curriculum, please see the proposal at the end of this report.

One of the main challenges comes from dealing with tuition cost differences between UHM and UHCC which would be great to be resolved if possible. Perhaps the importance of Ag can justify lower tuition costs to encourage student enrollment to UHM Ag program.

- Allow TPSS an exception to the hiring freeze to fill positions needed to modify the programs and research to meet the needs of the state.

We agree, and thanks.

- Consider a temporary stop-out of the BS in Tropical Agriculture and the Environment to facilitate a major program modification.

We have already been working to modify the program, which has been growing slowly. Further modification of the curriculum is required. Modification of the curriculum will provide impetus for greater recruitment of students who will have significant impacts on Hawai‘i agriculture. We need one year to finish final adjustments to the curriculum and to submit to the OVCAA. A stop-out would only impede the progress made to date and hurt our ability to attract students, and we would still need to support teaching to existing TAE students.
Proposals from CTAHR for Change

Proposal 1: Consolidate to one Agriculture Program State-wide. Combine relevant UH Hilo academic programs in agriculture with CTAHR programs in order to have one Ag program state-wide.

Reasoning:

1. Hawai‘i, with a population 1.4M cannot justify 2 separate agriculture/natural resource programs.
2. A single state-wide agriculture program fits the ideas expressed by the President via the white paper on streamlining programs; and fits the same argument for removing FCS from CTAHR.
3. The agriculture college at Hilo has college status, but is made up of 11–12 faculty members.
4. Merging Mānoa and Hilo programs (faculty and curricula) would result in larger programs becoming more adequately staffed and enrolled. Gaps in teaching could possibly be covered.
5. We fully agree that coordinating articulation between CCs and ag programs is essential. However, at this moment, this does not seem possible as we have multiple 4-year B.S. degrees in agriculture state-wide, with different prerequisites and graduation requirements. For example, the B.S Agriculture/Animal Health and Management has very different prerequisites to the UH Mānoa B.S. in Animal Sciences and requires substantially less 300+-level credits. Another important example is the B.S. in Agriculture/Tropical Agroecology in Hilo has more relaxed and very different prerequisites in chemistry, math, biology, physics to any CTAHR B.S. in agriculture. Having all state-wide UH ag faculty within a single college would dramatically increase the chances of success as they would be all working towards a shared goal and not competing for limited resources and students. There would be one curriculum in a discipline across the state, making it possible to articulate curriculum in agriculture with CC on a state-wide, system-wide basis. CC students would have an easier path to the 4-yr program. Otherwise a common curriculum probably would not be possible.
6. The UHH Ag faculty would have access to graduate programs they do not currently have, and thus increase student numbers.
7. Hilo faculty would not need to move to Oahu, as CTAHR is already state-wide and has experience with faculty being based on different islands. Students could study at either location.
8. Aquaculture expertise would be expanded.
9. Grantsmanship would be expected to increase as would graduate student numbers.

Challenges

1. Dealing with territorial issues associated with merging programs from two campuses.
2. Facilities for faculty on Hilo, how would they be accommodated?
3. Need to deal with tuition cost differences for students.
Proposal 2. Creation of a Cooperative Extension Department for County Agents

In July of 2020, CTAHR began to explore the potential creation of a Cooperative Extension Department, or other variations/options to best serve the needs of Extension. Such a department would complement the proposed reorganization of CTAHR. Supporting arguments for creation of an Extension department include:

- Only Cooperative Extension Agents would be moved to this department from existing CTAHR departments. Cooperative Extension specialists would remain in their current departments (except FCS of course if they leave CTAHR).
- This would provide a home for the five 4-H agents, one 4-H specialist, and one FCS agent on Maui that would be separated from the FCS department in the proposed UHM re-visioning plan.
- This would also reduce the number of faculty in TPSS which has been cited as being not in proper ratio to numbers of students in that department, and PEPS to a degree, owing to a large number of Cooperative Extension FTE.
- This change would result in a transfer of approximately 30 Extension agents from current departments into the new department.
- This move would create greater cohesiveness and professional development opportunities for the Extension agents in Hawai‘i, and give agents their own collective voice within the college.
- This change will make Hawai‘i Cooperative Extension stronger via Agent tenure and promotion reviews being done by Agents and a set of consistent evaluation criteria for Agents, which might not always exist among other academic departments.
- Numerous additional reasons in favor of the department were listed in the 2016 CTAHR review of Extension.
Department of Family and Consumer Sciences Preliminary Response

FCS is a strong Division of USDA with explicit recognition that family and community well-being is integral and connected to the production of food and agriculture ("FCS strengthens families, farms, communities, and the economy…", USDA, 2020). Thus, the human, family, and community dimensions cannot be divorced from agriculture.

The proposed reorganization has taken the FCS faculty by complete surprise and was not apparently in response to address the Covid-19 financial crisis at UHM. According to your Dean’s response, there is no budgetary savings for CTAHR and with the loss of 33% of the CTAHR Student Semester Hours generated by the successful HDFS and FDM BS programs, leaves department faculty and others wondering what is the rationale for these changes? Therefore, with no prior faculty consultation, no data, no decision rationale and justification provided to FCS in support of this drastic decision, we REJECT this proposal to remove FCS from CTAHR at this time. As defined by UHPA contract and UH BOR rules regarding reorganizations, appropriate and sufficient consultation with faculty, administration, and UHPA are required to justify, discuss, and implement any such changes. The current rejection of moving FCS out of CTAHR, does not close the door to future reorganization opportunities. These future reorganizations must be based on UH’s own BOR rules for such drastic academic changes that are supported by current academic data, justification, and sufficient faculty-administration-UHPA negotiations prior to any such reorganization.

This is a short summary of ongoing and preliminary FCS discussions. We are responding in the dark because do not have the underlying data or justification to support the proposals, therefore, we REJECT the proposed change to remove FCS from CTAHR, break apart FCS, and split FCS units by reorganization of the two productive academic programs of HDFS BS programs to Sociology and FDM BS to Art and Art History, move COF to CSS, and retain FCS agents in CTAHR.

The following documents are preliminary comments made in response to the removal of FCS from CTAHR by each affected unit: HDFS BS program, FDM BS program, COF, and FCS Cooperative Extension Agents.
HDFS MISSION/VISION AND ALIGNMENT WITH CTAHR’S LAND-GRA nt MISSION, USDA/NIFA

**Mission:** to provide theoretically-based, prevention applications for families and communities, with a focus on Asian and Pacific Islander populations. We focus on health and social well-being by developing a strong cadre of family service professionals of Hawai‘i, to apply scientific knowledge of healthy family functioning, enabling families to thrive.

FCS is a strong division of USDA with explicit recognition that family and community well-being are integral and connected to the production of food and agriculture. This is accomplished through scientific research and its application; strategic partnerships; extension education; and supporting ongoing efforts to promote FCS educator preparation.” Thus, the human service dimension cannot be divorced from ag.

**The 5-year ratio of student share hours (SSH) to instructional FTE is among the highest at UH Manoa (10,851), nearly double of the next highest dept in CTAHR (HNFAS, 6,128). 150-200/semester!**

**Our 150-200 graduates per year obtain employment that serves various communities across age groups, populations, non-profit, state and federal agencies.**

**HDFS 230 is required for Pre-Nursing, KRS, and Elementary Ed majors.**

**The Kumuloa Grant with WCC supports student articulation to HDFS.**

**HDFS partners with over 50 orgs in HI, US Mainland, Canada, UK, providing intern optimal experience.**

**HDFS is the largest program in CTAHR and has the highest Native Hawaiian majors/alums in the College.**

**HDFS is a gateway to the Certified Family Life Educator (CFLE) credential, recognized in the U.S. & Canada.**

**HDFS students are highly active in UROP/SURE.**

IMPACT ON SERVICE IN COMMUNITY- INCLUDING 4H EXTENSION

HDFS’s internship connects with extension projects where students work to enhance healthy families & resilient communities, activities acknowledged and valued by USDA.

Yancura is chair of multistate project NC1171, on resilience in rural families. Over 25 years, this project has an extensive grant and publication record.

Eng’s Home Garden Network produces ag lesson videos for homeschooling keiki in HI. Yancura/Greenwood received a $1.3M CFAR grant to serve custodial grandfamilies.

Kuwahara provides parenting workshops for UHM’s students and employees.

Cheang provides children’s savings and family financial literacy project, family caregiver education, and class on soft skills preparing for student success and employability.

**Eng leads farmers’ needs assessment publications during Covid19 with faculty across CTAHR units.**

**Pause Space provides mindfulness training for stress reduction & resiliency to UHM community.**

**Le’s mindfulness training reached >1,200 K-12 educators and social health workers in HI. Le’s Mindfulness with Aloha Breath book sponsored by DH&H Office of Youth Services (4,500 copies) is providing a health and well-being resource to children during the pandemic.**

HDFS faculty’s scholarship is productive covering positive youth development, food systems, family resources/caregiving, community engagement, gerontology, and API families.

HDFS faculty brought in $2.43M (external) & $177K funding (Hatch & UHM funding) in 2014-2019 ($322K per FTE).


RESPONSE TO THE RECOMMENDATION DOCUMENT

HDFS faculty cannot at this point provide a thoughtful, reasoned response to President/Provost Lassner’s re-organization recommendation doc with the lack of the following information:

- Data & criteria used to move us to sociology
- Is this proposed move aligned with UHHPA-BOR agreement?
- Was Article XVI, Retrenchment, of the UHHPA-BOR Agreement considered when these recommendations were made?
- What are potential impact for our staff, senior lecturer, and 12 in the proposed recommendations?
- Possibility to bring 4 state funded GAs to any new department?
- Eligibility to continue applying for NIFA grants/multistate projects?
FCS Fashion Design and Merchandising Program Preliminary Response

Where fibers from Agriculture products to Consumers by Fashion Industries

Fashion Design and Merchandising (FDM) begins agriculture fibers (i.e., cotton, flax, wool, silk & Alpaca) by creating and retailing fashion items with innovative multi-business models. Silk Sericulture and Alpaca Farms are small scale in Big Island and Maui without any support. FDM includes textile testing & material evaluation, retail buying, small business start-up, B2B, B2C, digital retailing, omni-channel retailing, public relations, international trade, visual merchandising, brand management, and the psychology and behavior of consumers in fashion retailing. In nature, FDM is one of the programs that study agricultural materials to produce and provide necessary products for end users/consumers in many forms. Due to lack of natural resources, regenerated fibers were developed in the past century. Moreover, FDM professor and students’ team are in the front runner, their “Vegan Leather” project will be presented in the November, International Textile & Apparel Association Annual Conference, and accept their Distinction Award.

The FDM program is a good fit within the College of Tropical Agriculture and Human Resources. The program is interdisciplinary in nature and includes aspects of textile development, small business/ local business, social-psychological behavior, and application of 3D modeling technology in virtual reality. Our connection with agriculture clearly comes out of engagement and education of textiles, environment, and small/local business. This farm-to-fashion connection allows the two industries to create opportunities for growth, especially with today’s rise in sustainable fibers and fabrics. The genuine connection from farmer to printer offers valuable information regarding agriculture technology systems and how they are interrelated with fashion manufacturing technology. In addition, sustainable fashion with green innovation focuses on utilizing recycled, organic, and biodegradable materials and textiles as well as alternatives to chemical dyes; considering greenhouse gas emissions at each stage of production, distribution, and selling; and emphasizing social responsibility including political, labor, and human right issues.

Furthermore, the FDM program has a long history with CTAHR and has developed links through research and instruction together with Human Development and Family Studies (HDFS) and Extension. Moving FDM to a different college would weaken the program’s ability to reach into the community through Extension. Additionally, the FDM faculty has been working on multi-state projects through NIFA without any problems, and our students’ research projects such as consumption of microfiber and environment have received awards in research conferences. We are not able to respond until we know why our program is being removed from CTAHR and why Art was selected as our new home.

Students in FDM have expanded their textile knowledge and their academic achievement by conducting various industrial standardized textile testing and self-sufficient research with today’s innovative sciences and technology in CTAHR. FDM students have been involved in a variety of CTAHR’s student resources, which are individually advising each student’s academic path, helping a good and supportive research platform, and having various opportunities for student-centered activities and scholarship. These services and support have become a vital encouragement for their academic endeavors. Having a CTAHR’s community and family-
oriented vision as emphasizing local business and socio-environmental concern has been advantageous for local students in Hawai‘i; they are able to start their education with award winning professors in FDM in CTAHR.

**Center on the Family (COF) Preliminary Response**

The Center on the Family (COF) was established by legislative mandate (SCR 82, 1989) to be the key source of research and information on the well-being of Hawai‘i’s families. COF is a vibrant unit that exemplifies Mānoa’s Land Grant mission by bringing translational research to community partnerships. It is essential that COF remain intact and housed in a unit that allows it to flourish and continue to serve the needs of Hawai‘i’s people.

- **COF serves the community.** We work closely with state agencies and community organizations that directly serve children, families, and older adults. COF provides original research, evaluation services, data, and technical assistance that inform program planning, service delivery, and public policy. Our partners include DHS, DOH, the Hawai‘i Community Foundation, and numerous nonprofit human service agencies, community coalitions and advocacy groups. We address pressing social issues including homelessness, access to childcare, foster care diversion, paid family leave, healthy aging, and substance abuse.
- **COF is productive.** Since its inception in 1991, COF has received over $37 million in external grants and contracts. For 2020 alone, this figure is $2.7 million. Our community-focused reports receive approximately 50,000 views per year. We also engage in the traditional forms of academic scholarship.
- **COF is not an instructional unit.** We concur with Dean Comerford that **COF requires special consideration as to where we best fit and appears to have been overlooked** in the original recommendation. As Specialists and Researchers with heavy extension responsibilities, we clearly address the USDA mission and along with the FDM, HDFS, and family-focused CES units greatly enhance the value of CTAHR. We also clearly have skills and content areas that complement CSS and could significantly expand its community outreach if such work has a place in CSS. For COF in particular, potential options include (a) staying in CTAHR along with HDFS and FDM, (b) staying in CTAHR as part of a new department of extension, (c) becoming a center within SSRI, and (d) becoming a center within SOC or another CSS department.
- **We do not have the information needed to make a reasoned response to the recommendations.** We were not given an explanation or data to support the Budget Team’s recommendation to dismantle the human resources branch of CTAHR. No process or timeline has been provided by upper administration. We have had little time for discussion with our colleagues within the FCS department and no time to meet with colleagues in other CTAHR departments or CSS. It is not reasonable to expect any unit to make such a crucial decision about their future at this point in time.
FCS Cooperative Extension Faculty Preliminary Response

- **Eliminate the Department of Family & Consumer Sciences. Remove Human Resources from the name of the College**

  **Response** - FCS Agents belong in the FCS Department which needs to remain in the College of Tropical Agriculture and Human Resources (CTAHR)

  - Without the networking that occurs during regular department business, agent/specialist/research/instruction faculty will be at a disadvantage when competing for major funding sources (USDA, FCS Division grants) such as the recent CYFAR grants (~$2mil since 2015) in which extension agent faculty are PIs and co-PIs.
  - Eliminating the FCS Department reduces naturally occurring networking opportunities between campus-based instruction/research faculty and off-campus agent faculty, which would minimize collaborative projects between instruction and agent faculty that have been developed to benefit FCS students including internships, course assignments, and guest expert lecturer opportunities.

- **Reorganize the Fashion Design & Merchandising program and faculty to the Department of Art and Art History (CALL)**

  **Response** - While there are currently no Extension Agent faculty serving the FDM field, the subject matter areas align with nationally recognized FCS program areas. As Extension and I/R faculty continue to have discussions on collaborative projects we see the value of FDM remaining within the FCS Department and CTAHR.

- **Reorganize the Human Development and Family Studies program and faculty to the Department of Sociology (Social Sciences)**

  **Response** - The HDFS academic program plays a critical role in fulfilling UH Manoa’s land-grant mission of Cooperative Extension under USDA’s National Institute for Food and Agriculture (NIFA), which is the federal administration agency that oversees three HDFS-related divisions. These include the Divisions of Community and Education, Family and Consumer Sciences, and Youth and 4-H.

  HDFS and FCS faculty fulfill this mission through community education and grant-funded programs, which enrich the lives and livelihood of farmers, consumers and families in Hawai‘i; and promote local food systems, healthy living, youth development, and the stewardship of natural resources for future generations (CTAHR-CES website).
CTAHR Department of Human Nutrition, Food and Animal Science (HNFAS) Preliminary Response

Summary Recommendations

• Consider modifying the MS in Food Science into a professional master’s program, in collaboration with Outreach College.
• Continue to monitor enrollment and support for graduate students in the PhD in Nutritional Sciences.

Details

• The Department offers the BS and MS in Animal Sciences, BS in Dietetics, BS in Food Science & Human Nutrition (multiple tracks), and the MS and PhD in Nutritional Sciences. The BS in Dietetics (previously a track in the BS in Food Science and Human Nutrition) is professionally accredited. The BS in Animal Sciences includes a pre-veterinary track.
• There are 133 enrolled in the BS in Animal Sciences, 26 in the BS in Dietetics, 100 in the BS in Food Science & Human Nutrition, 8 in the MS in Food Science, 10 in the MS in Nutritional Science, and 19 in the PhD in Nutritional Sciences.
• Faculty FTE in the department is 25.00, distributed across Animal Sciences, Food Science, and Human Nutrition.

Comments

We have 23 G-funded FTE faculty and 3 grant-funded faculty in the department. FTE distribution for 23 faculty are 8.6 FTE on instruction, 7 FTE on research and 7 FTE on extension. Besides BS in ANSC, FSHN and DTCS, MS in Nutritional Science, Food Science, Ph.D. in Nutritional Science, currently we also have 10 graduate students in MS Animal Science, which is missing in the recommendation. Based on recently updated information, the total number of HNFAS students (286 undergraduate and 47 graduate students) is 333, which is probably more than 1/3 of CTAHR students. The student enrollment numbers have grown significantly this year. Over the past year, we had seven faculty members retire, although the retired members were not full-timers on instruction. But some of the courses taught by these faculty, and their research and extension programs are needed to be continued, or modified for new programs by recruitment of new faculty members. These new positions will not only support our instructional needs but will also help state agriculture production and food and community nutrition programs. The department is facing serious challenges in meeting the curriculum requirements for the students due to the UH hiring freeze. We expect to have two faculty positions of food science and human nutrition, and two animal scientists for teaching applied animal production and management this academic year just for meeting the instructional workload and courses/internships requirement for current students to graduate on time.

The Department’s leadership in the Pre-Veterinary program through the ANSC curriculum will continue to grow as there is a steady demand for veterinarians, and seats in veterinary colleges are increasing. Combined training programs such as DVM/MS, DVM/PhD, DVM/MPH, DVM/MBA programs are also increasing in number. The Department is also working to expand aquaculture research and extension programs and companion animal programs, which will
attract additional students from across the campus to our classes and could also attract new ANSC majors. The FSHN program should also show slow but steady growth as the demand for students trained in nutrition as well as the need for additional dietitians grows. Our new program for B.S. in dietetics, approved two years ago, can bring more students or transfer students to pursuing dietetics and human nutrition education.

At the departmental level, we appreciate that the UHM and CTAHR administrations believe that agriculture is important and essential to the university and the State. Agriculture is the business and science of food production by using both plants and animals or livestock animals (beef and dairy cattle, sheep, pig and chicken) and aquatic species (e.g. fish, shrimp, etc.). Agriculture is not limited to crop production. When the administrations believe that the programs are important and essential, what specific supporting actions and resources for the growing and sustainable programs are the administrations providing during this challenging time? It is easy to make across-board budget cuts or hire-freezing to meet financial obligations. You will not see any problems with diminishing programs since they have been taking a free ride in the UHM system for many years. But it will have problems and consequences for the growing/sustained programs. Examples of consequences include faculty desertions due to teaching overloads and reduced student enrollments due to class cancellations. We suggest that the administrators support the departments or programs that are growing and sustainable with action plans in the form of fiscal, human and facility resources so that UHM will be better placed or even stronger in the times of pandemic and post-pandemic.

Comments

We thank the CTAHR administration for giving HNF AS the opportunity to respond to the recommendation of the Provost/President, despite the blinding speed that events are unfolding. Valuing the importance of shared governance, we respectfully ask that faculty be involved throughout the decision-making process.

Animal Sciences

The Animal Science BS program has the second largest enrollment in CTAHR (154 students), with an increasing trend over the past decade. As a result of several faculty retirements over the last few years, there are currently just seven (7) ANSC faculty with a combined instructional FTE of 2.8 (total 8.35 for HNFAS). Despite the economic tightening that is anticipated, we urge the administration to fill positions within our department to help ANSC meet the needs of the students. The Animal Science program needs to hire additional faculty to provide high quality instruction on livestock production. Plans to address changing student needs and interests by expanding the companion animal component of the program are underway and will also need instructional support.

The BS in Food Science and Human Nutrition has 5 tracks, including Food Science: Business, Food Science: Culinology, Food Science: Pre-professional, Human Nutrition: Pre-professional, and Human Nutrition: Sports Wellness. We are unable to pull enrollment by concentration/track. The Food Science Business and Pre-professional tracks share a common core of 34-36 credits, with 15-18 credits reserved for specialization. The Human Nutrition Sports Wellness and Pre-
professional tracks share a common core with 15-24 credits reserved for specialization. The Culinology track offers a 2+2 pathway for UHCC transfer students.

- The PhD in Nutritional Sciences struggled with low enrollment, which delayed its conversion to established status for a number of years. The program enrollment appears healthy at 19, however we recommend that the Department continue to give this program attention.
- Enrollment in the MS in Food Science is currently 8, and of the faculty, there appears to be 4 associated with the program. The program offers 6 concentrations, including food safety and quality, food processing and engineering, food chemistry and biochemistry, food microbiology, food science education, and “special area.” Given the low enrollment and number of faculty, recommend that the Department greatly reduce the areas of concentration.

Responses

Although the current language for our program mentions those 6 areas or concentrations, students are not required to specify their concentrations. This language was specified to communicate potential areas of research projects and faculty expertise, not to differentiate subprograms within our program. We currently have 3 food science faculty in our department who serve as Food Science MS degree mentors and 1 faculty member in another department (MBBE) who had stepped in as a faculty mentor due to an unexpected death of one of the food science faculty members. Enrollment in MS Food Science program has increased over the years (from 4 students in 2015-2016 to 8 students in 2016–2017, 10 in 2017–2018, and 9 in 2018–2019), partly due the establishment of a 3+2 program in collaboration with 4 universities in China (established in 2015). This program helps to prepare students for careers in the food industry in Hawai‘i and/or for future graduate studies (a pathway to our Nutritional Sciences PhD program, Food Science track). Our MS in Food Science program is also featured in the directory of graduate programs for the Institute of Food Technologists, our main scientific and professional society (https://www.ift.org/community/students/graduate-programs), although our undergraduate food science program is ineligible for approval as we do not meet the minimum requirements for faculty (at least 4 food science faculty members are needed).

The MS in Food Science is designed to prepare students for positions in academia and in the food industry. Recommend that the faculty consider whether the program would be more successful and better serve the state as a professional master’s degree. Cornell University offers a Master of Professional Studies in Food Science that could serve as inspiration: https://foodscience.cals.cornell.edu/graduate/master-professional-studies-mps/

Responses

Although we appreciate this suggestion, converting our MS in Food Science to a professional degree would not better serve our state. Our current MS programs have allowed graduates to successfully obtain jobs in the food industry in Hawai‘i and also serves as a pathway for future PhD studies (including the Nutritional Sciences PhD program and other programs within CTAHR). The current MS in Food Science program broadly prepares future graduates for careers in industry, academia and government. Since our MS in Food Science program is research-based, it provides opportunities for students to receive funding for their academic program (e.g., via various grant mechanisms) and helps students to develop a broad skill set and
understanding of food science from research to food supply to practice in our local food system. Our current MS in Food Science program offers both a Plan A (thesis) and Plan B (non-thesis) option, the latter of which has been used in the past by non-traditional students.

We are familiar with Cornell’s program and do recognize that they have had success with their program. However, part of Cornell’s Professional degree success is due to their larger faculty numbers (~40 food science faculty, not including instructional lecturers). With 3 food science faculty in our department, currently it would not be feasible to develop a program such as this in addition to our existing undergraduate and graduate programs. Cornell’s Master of Professional Studies in Food Science has benefitted non-traditional MS students who already have established careers in the food industry and have financial support from their employers to enroll in the program. In Hawai‘i, this sort of program could theoretically offer the opportunity for current professionals to get an advanced degree while working. However, in reality our local food science professionals often do not have the same time protection, salary equivalence, and financial support as analogous job positions in the continental U.S. do.
CTAHR Department of Natural Resources and Environmental Management (NREM) Preliminary Response

NREM was not mentioned in either the summary of recommendations for CTAHR from the Provost or the draft response to the Provost's document from CTAHR administration. We assume this is because NREM's programs are viewed favorably as meeting critical needs for the State of Hawai‘i in conservation and restoration of natural and managed ecosystems, food security, climate change mitigation, and other priority areas. We also are committed to making NREM a place of Hawaiian learning within the university. The department-specific recommendations in the Provost's document include

- Increase student enrollment through our SUST cross-listed courses
- Partner with the GES program and a yet-to-be-created BA in Sustainability to create 4+1 master’s degrees

NREM is already doing these things. Undergraduate (UG) enrollment has grown from 50 in Fall 2010 to 70 in Fall 2015 to 130 in Fall 2020. Graduate (GR) enrollment has varied with faculty FTE in research but has ranged from 50-70 students over the past 10 years. Our graduate committee is working with the GES program on a 4+1 degree in our Master's of Environmental Management program. We have the most SUST cross-listed courses in the college, and our faculty have served on the SUST Curriculum Committee.

The primary challenge we face is a decline in faculty FTE, especially in instruction (I). Our instructional FTE peaked in Fall 2012 at 5.05 when our enrollment was 76 UG and 69 GR students (145 total). This fall, instructional FTE is 4.5, and our enrollment is 130 UG and 53 GR (183 total). FTE in research (R) and extension (E) are likewise down from 2012, so we have significantly less faculty FTE to serve the needs of our students and external stakeholders. Regardless, our faculty have significantly increased the number and value of extramural research and extension funding awards ($12,336,181 in external research grants as PIs for the years 2015-2019) and scholarly outputs over that time. Our I, R, and E programs are also well-integrated, providing opportunities for students and stakeholders to benefit from engagement in each of them, while addressing vital needs, such as sustainable food supply chains, resilience to climate change induced disasters, and response to rapid ohiʻa death within our state and the broader Pacific.

We have four approved faculty positions that are currently frozen. Without being able to hire these positions, we will have to consider capping or downsizing our student enrollment to better serve the needs of our current majors and better align faculty workloads with current contracts and tenure and promotion guidelines. In particular, NREM is facing a shortage of FTE in the social sciences (including economics), critical to maintaining our department’s coupled social and ecological focus, and meeting expanding student interest, while also conducting outreach and mitigating conflicts related to key resources in Hawai‘i. Consistently teaching above our instructional FTE compromises the ability of faculty to advise students, especially graduate students, engage in scholarship, seek extramural funding, and provide service to the university, the state of Hawai‘i, and our professions. This also leaves us less time to pursue collaborations with other units on campus to strengthen cross-disciplinary opportunities in instruction, research,
and extension. Under current conditions, our focus has to be on serving our current students and stakeholders while managing faculty workloads.

NREM faculty are already working on our own recommendations for how we can sustain and further contribute to the future of the university, the state, and the world, as outlined in President Lassner’s White Paper. We look forward to discussing these with you during the current academic year.
CTAHR Department of Tropical Plant and Soil Sciences (TPSS) Preliminary Response

The faculty of TPSS engage in Research, Extension, and Instruction to address grand challenges facing agriculture today and in the future. Here, we define two primary grand challenges that collectively encompass TPSS research, and extension efforts and underlie our instructional programs: (1) improving food self-sufficiency and sustainability under a changing climate and (2) strengthening the agriculture economy in Hawai‘i. The department’s approaches to these challenges are necessarily broad and interdisciplinary, and operate at multiple scales to better understand and offer solutions at a systems level. The outputs from our research, extension, and instruction efforts are geared to providing impactful solutions to problems facing Hawai‘i, the Pacific, and other areas of the world especially vulnerable to climate change.

We emphasize the combined need for significant contributions from research, extension, and instruction to meeting these grand challenges; and we acknowledge the emergent strengths and synergies that come from their interconnectivity. Below, we articulate more explicitly our approaches to address these two grand challenges. Implicit in these approaches is the training of globally competitive students with state-of-the-art skills and competencies; and the development, dissemination, and adoption of dynamic, evidence-based solutions to improve livelihoods in our communities.

**Grand Challenge 1**
Improving food self-sufficiency and sustainability under a changing climate

**Disciplinary Framework** - TPSS faculty work at different scales of investigation. Having an interdisciplinary, holistic approach is critical to effectively address this grand challenge. In general, TPSS faculty are divided into those working at the molecular, cellular, and organismal scale (Plant & Soil Systems) and those working at the ecological, community, and biocultural scale (Agroecology Systems).

- **Plant and Soil System Studies**
  - Genetics, genomics, physiology, cellular and organistmal biology
- **Agroecosystem Studies**
  - System design, ecosystem services, biocultural approaches

**Current & Future Approaches** - TPSS research and extension faculty, using one or both of the described Disciplinary Framework, address these broad areas of need that are ripe for future growth.

- Crop productivity & resilience (biomass, yield, G x E, organismal interactions)
- Crop and environment system interactions (soil & water health and quality, water use efficiency, carbon capture)
- Crop/germplasm diversity (floriculture, ornamentals, domestication, nutritional value, underutilized crops)
- Diverse agricultural systems (urban ag, ornamental, landscaping, edible landscaping, green roof, living walls, xeriscaping)
- Protected and predictive agriculture (modeling, remote sensing, Smart Farms)
Grand Challenge 2
Strengthening the agriculture economy in Hawaiʻi

Current & Future Approaches - TPSS faculty engage in extension and instruction that are essential to support and strengthen the agricultural economy in diverse ways. To grow our program and meet the needs of the state necessitate significant revisioning of the Tropical Agriculture and the Environment (TAE) undergraduate program to attract and retain motivated and talented students. Our goal is to provide trainees with a rigorous, cutting-edge, science-based, solution-oriented education so they can tackle current and emerging challenges facing the state, nation and planet. We are working on a bold, new, 21st century agriculture undergraduate curriculum that we expect to be able to offer in Fall 2021.

- Science-based workforce development (all levels from workshops to certificates to undergraduate and graduate degrees).
- Plant/soil/water solutions and agroecological systems that support sustainable communities and culture (viable, relevant, diverse, and scalable)
- Cultivar development and marketing (local to global)
- Integration of the three pillars of sustainability (profitability, environmental protection, societal benefits)