COLLEGE OF TROPICAL AGRICULTULTURE AND HUMAN RESOURCES
Second Progress Report on 2008 Comprehensive Program Review
June 14, 2012

In 2008, the College of Tropical Agriculture and Human Resources (CTAHR) underwent a comprehensive program review. The review culminated in a report of findings and recommendations by the review team to then-Interim Vice Chancellor for Academic Affairs Linda Johnsrud. In November 2009, CTAHR submitted a one-year progress report to Vice Chancellor for Academic Affairs Reed Dasenbrock responding to five major findings in the 2008 review. In September 2010, VC Dasenbrock requested that CTAHR submit a follow-up progress report and asked that the report also address two issues not mentioned in the 2008 review report. The narrative below, CTAHR's second progress report, supplements the one-year progress report and addresses the additional issues raised by VC Dasenbrock.

Issues raised by the program review team or VC Dasenbrock are shown in italics below, followed by CTAHR's response.

1. Develop a long term staffing plan to assure that the appropriate faculty composition is in place, especially in view of the anticipated retirement of senior faculty in the near future.

To assure that the appropriate faculty composition is in place to meet present and future needs, CTAHR follows a Priority Staffing Process which is implemented College-wide. This formal and transparent process—with its preamble and overview, and the factors influencing priority staffing decisions—is posted on the College's Web site and is accessible by all CTAHR faculty and staff. Under the Priority Staffing Process, all CTAHR units develop staffing plans, based on current and future needs, and anticipated retirements in instruction, research, and extension. Staffing priorities developed by the various units are discussed at CTAHR's Leadership meeting (which includes all Department Chairs, County Administrators, Center Directors, and College administration). All position requests are assessed against future trends and overall College as well as stakeholder needs. The optimal mix of instructional, research, and extension positions, with the appropriate expertise and skill sets, is identified. The list of faculty positions to be filled is prioritized by the Dean and shared with CTAHR's Leadership Team. As budget permits, the positions are submitted to the VC for Academic Affairs and UHM Chancellor for approval to recruit and hire.

Note that in the filling of positions, there is a dynamic redistribution of responsibilities and identification of new responsibilities with the goal of efficient use of human resources, and positions are not replaced one-for-one when retirements occur. Rather, the Priority Staffing Plan developed by each unit reconfigures individual responsibilities within the unit to address current and future College and state needs in the most efficient and effective manner. For example, the retirement of a research/instruction faculty and an extension/research faculty might best be addressed by the creation of a single new position having all three responsibilities, coupled with redistribution of responsibilities among other faculty in the unit. Although this could lead to the loss of certain responsibilities or services, it will ensure that the highest priorities of the unit and

the College are met, and will allow CTAHR to address current and future needs in a dynamic fashion.

Addressing the need for instructional faculty. Although CTAHR's record in terms of time-to-graduation at the undergraduate level has been better than the UH-Mānoa average (see discussion below), the College continues to seek ways to help its students graduate in a more timely manner while at the same time continuing to receive an excellent, student-centered learning experience. An issue of mounting concern in the College for a time was our limited tenure-line instructional FTE and heavy reliance on temporary lecturers, which we were concerned could compromise instructional quality and negatively affect students' timely graduation. This problem became more serious as the number of student majors in the College has increased by 40% between Fall 2000 and Fall 2010 (and has seen another significant increase at the undergraduate level in Fall 2011). To address the issue, in October 2010, CTAHR conducted the first round of faculty recruitment in more than two years, which focused on strengthening our instructional capital.

Three overall objectives are driving the hiring of new faculty, which should have both short- and long-term positive impacts on the College's instructional program:

- We are recruiting for faculty with higher instructional FTE allocations, along with desirable disciplinary competencies, to ensure the integrity of evolving academic programs. In October 2010, CTAHR conducted a round of priority hires that placed emphasis on meeting instructional needs. Those positions are being filled presently. The average instructional FTE for the aforementioned faculty positions is 56%; this compares with an average instructional FTE of 23% for all authorized faculty positions in the College (as of summer 2010). Even some of our faculty on the neighbor islands are being recruited with the expectation that they will contribute to the instructional mission of the College by presenting lectures or courses online or via Polycom.

- We are giving priority to instructional positions that offer courses with high enrollments.

- We expect new hires to use new technologies and techniques that reach larger and more diverse student pools, improve teaching quality, and increase student engagement.

As of June 2012 we are pleased to report that the hiring of a number of tenure-line instructional faculty, begun in October 2010 and described above, has reversed the College's reliance on lecturers.

Addressing the need for extension faculty. There have been significant losses of faculty with extension responsibility over the past several years, primarily due to retirements. Between July 2009 and December 2010 alone, CTAHR lost 12 FTE with extension time, of which 10 FTE were county extension agents. Under the Priority Staffing Process, several agent positions were approved for hiring in 2011, but gaps in our extension program remain. We are addressing those

gaps in several ways. Where a needed extension expertise no longer exists in a county, we are providing travel funds for an extension agent in one county to work part-time in another county that lacks the needed expertise. Agent participation in this program is voluntary and on a year-to-year basis, so that assessments can be made before long-term commitments are made. The work-sharing is approved by the County Administrators in both the originating and receiving counties and by the Department Chair who supervises the agent. This arrangement was piloted in FY 2011 by an agent from Hilo specializing in ornamental crops, who provided part-time extension work on Oʻahu. The lessons learned from that agent's work are being used to develop the work-sharing in other program areas.

Another mechanism that has been proposed to help fill extension gaps temporarily is to strategically use extramural funds to hire program assistants to perform extension duties under the direction of experienced extension faculty. This will be done in FY 2012 to carry out 4-H projects and activities in Kona, following the retirement of an extension agent there. A third means of maintaining extension programs despite loss of staff is to institute train-the-trainer programs in which volunteers carry out extension education. The best example of this is CTAHR's Master Gardener program, in which volunteers undergo six months of training on a wide range of gardening skills and knowledge (soils, pests, water, plants, and other subjects). The Master Gardeners then provide voluntary extension services such as staffing phones or "plant doctor" booths at College events. The Master Gardener program is strongly supported by CTAHR and is expanding to a statewide program in all four counties. Additional details on CTAHR's evolving extension program are presented below.

2. Provide opportunities to help faculty develop and implement a program of assessment and appropriate learning outcomes across the College using data to make proactive programmatic and curricular improvements addressing impact on planning and budgeting.

In the past three years, the CTAHR has provided several opportunities for faculty to strengthen the College's program of assessment and learning outcomes. As described in the one-year progress report, these include hosting webinars on program assessment and conducting a College-wide evaluation of the quality of program assessment being performed in all of our undergraduate programs. Approximately 20 faculty and staff participated in the assessment webinars. The College continues to provide funding support to faculty members who seek to improve instruction, including program assessment, by participating in local or national workshops and conferences. Since the comprehensive program review, instruction-improvement support has been provided to ~30 faculty (for some, more than once). Heretofore, the College has directed most of its attention to undergraduate program assessment, but it is now increasingly assessing the quality of its graduate programs. This year, all of CTAHR's graduate programs submitted Annual Program Quality Reports, and the quality of the annual reports presently is being evaluated by the Graduate Division.

Reports on college-by-college performance from the UH-Mānoa Assessment Office indicate that CTAHR is performing relatively well compared to other units on campus. Presently, all of the undergraduate programs in CTAHR have defined and published clear and measurable student learning outcomes and curriculum maps, and most programs are routinely evaluating the extent to which the outcomes are being met. The assessment coordinator of the only program that has

not been gathering evidence on a regular basis has met with the Mānoa Assessment Office to improve that program's assessment of student learning outcomes.

3. *Improve use of technological innovations for a more contemporary Web presence for recruitment and community engagement, for instructional programs, and for improvement of extension delivery across the state.*

Major improvements were made to the Web sites for most of the units in CTAHR, including those for instruction, research, and extension. These improvements, which are continuing, were described in detail in CTAHR's one-year progress report and are not repeated here. In addition, the following initiatives were implemented:

Engagement of students and alumni. Within the last two years, the Academic and Student Affairs section of the College Web site has been enhanced with photos of and testimonials from CTAHR students. CTAHR's Academic and Student Affairs Office has produced and posted career-focused videos featuring successful CTAHR graduates and community partners. Academic content has been improved and photos have been strategically placed throughout the various pages of the site. In addition, CTAHR recently launched a monthly online *Student Newsletter* to improve communication to and among CTAHR students and to increase student engagement.

Extension Web presence. Web-based information is a critical component of today's extension outreach and information delivery to the general public. Many extension clientele are sophisticated in their use of information technology and often turn first to electronic media to find answers to various questions. The current CTAHR extension Web site contains a host of useful information compiled from research and extension programs in Hawai'i over many decades. Access to the information, however, is not always obvious or user friendly. We are working to improve our extension Web site, update information, and improve access to information. The work includes eliminating dead or outdated links on the Web site and reviewing extension Web sites at other land-grant institutions for best practices ideas as to what is most effective for Web-based extension outreach. Integration with other technologies, such as smart phones and electronic pads, quick response (QR) codes, and social media sites is also being explored and adopted.

Information technology. In 2010–2011, CTAHR upgraded its IT capabilities significantly. To meet the public's desire for information presented via multimedia formats, CTAHR's IT unit has begun to refocus much of its effort. Currently, a multimedia server is being installed to ensure CTAHR provides a better Web experience to users and expands the ways in which users can access our content. We have hired a new IT staff member whose primary responsibilities are to manage CTAHR's computing and networking capabilities and reassigned the College's programmer to the Planning and Management Systems Office, where all other College IT staff are located. This provides a critical mass of IT support services to the College and allows for greater focus and integration among staff members; e.g., enables the Web developer to concentrate on our Web site's programming structure and content while other IT staff members to focus on computing resources, multimedia services, and network resources. The additional staff resource and administrative reorganization have enabled CTAHR to provide

more technical support for the development of new informational databases and servers, and to respond to requests for assistance from faculty Web developers.

Content management. In response to the growing demand for Web development, the College has implemented a content-management system approach to its Web development and maintenance strategy. This system allows the College's single Web developer to focus her skills on managing the technical aspects of the site and enables large numbers of non-technical content contributors to update their pages. Efficiencies will be gained though simplified workflow, and content contributors will gain greater control over their site's content and be less reliant on the Web developer. Some departments are taking Web development a step further by developing their own Web sites using departmental or other resources.

The College purchased DotNetNuke as its content-management software in 2010 and has since customized the software to fit the College's existing IT structure, databases, and layout standard. The College presently is converting the department Web sites onto the DotNetNuke platform.

Web content. Fresh content is key to attracting new and return visitors to our Web site. During the last two years, CTAHR established two regularly scheduled e-bulletins—the weekly *CTAHR Notes* and the monthly *CTAHR Alumni & Friends* newsletter. Select stories and photos from these two e-bulletins are re-purposed on the College's homepage. The College also re-purposes its *Quarterly Impact Report* stories and photos on the general homepage Web gallery. These stories of activities and accomplishments of the College's students and faculty are of general interest to potential students and their parents, as well as to various community stakeholders.

Publication database. CTAHR's Office of Communication Services has developed a searchable online database of more than 1,000 of its publications. The digital publication collection has also been archived with the University of Hawaiʻi's Hamilton Library's ScholarSpace initiative.

Online courses. CTAHR is making significant strides in delivering courses over the Internet. In Spring 2011, the College provided funds to three of its academic programs to partner with the College of Education's Distance Course Design and Consulting (DCDC) Group to develop online courses for high-enrollment courses: FSHN 185, The Science of Human Nutrition; PEPS 250, World of Insects; and a yet-to-be approved undergraduate course in MBBE, Aquaponics. These were selected for funding based on faculty interest and the potential number and geographic diversity of students to be reached. The online section of FSHN 185 was launched in Fall 2011, reaching 29 students. It was offered for a second time in Spring 2012, with 59 enrolled students, and will be offered again in Fall 2012 with a cap of 80 students. Modules of the online version of PEPS 250 (a Writing Intensive course) were offered this semester to 20 students. It will be offered as a fully online course again in Spring 2013. The Aquaponics course has not yet been approved as a formal course, though modules have been offered online. Also in the last year, online delivery of courses was listed as an expectation in the recruitment announcement for several new faculty hires. In the past year, more than 30 CTAHR faculty and staff have leased Blackboard Collaborate (formerly "Elluminate Live") sublicenses from DCDC to improve communications within the College and with external partners and

stakeholders. In Spring 2012, using the same criteria as in the previous year, funding was provided for the development of five additional online courses: FSHN 370, Lifespan Nutrition; NREM 203, Applied Calculus for Management, Life Sciences, and Human Resources; PEPS 463, Urban Pest Management; and two yet-to-be-approved courses in TPSS and PEPS.

4. Take steps to improve student concerns related to frequency of course offerings and better coordination across departments and colleges.

To improve the frequency of course offerings and coordination across departments, CTAHR's academic programs have culled courses that are offered infrequently or that have not been offered recently, and continuously revisit their curricula to ensure that students have a clear and timely pathway toward graduation. Moreover, CTAHR has taken major strides in providing incentives for offering larger courses that will accommodate more students without decreasing educational quality. The College now allocates teaching assistantship FTEs based entirely on the size of classes and on laboratory course needs, and has provided funding to three of the College's academic programs to convert high-enrollment courses to online delivery so that they can reach a larger, more diverse pool of students. These online courses will allow students who might otherwise face scheduling conflicts to enroll in required or elective courses. The advertisements used in the recruitment of several new faculty positions required the ability to offer online courses. We have consulted the Mānoa Writing Program to explore the possibility of using teaching assistants to assist in Writing Intensive courses and thereby increase the cap of such courses above 20. The Mānoa Writing Program has advised us that if a teaching assistant has experience in providing written formative responses, leading peer review sessions, holding individual conferences, and assisting students through the draft-and-revision process, they can be approved as co-instructors in Writing Intensive courses.

In addition, reviews are being conducted to assess whether the elimination of graduation requirements involving historically under-enrolled courses is appropriate. For example, the Apparel Product Design and Merchandising (APDM) program is undergoing a curriculum-mapping process with the UH-Mānoa Assessment Office to develop an effective schedule of essential course offerings and to streamline its curriculum. The APDM curriculum committee has decreased the number of APDM core requirements (from 45 to 33 credit hours) and developed strategies to eliminate low-enrollment design courses by merging them into progressive project-based courses, with the goal of implementing these changes as early as Fall 2012. The new tenure-track Fashion Product Development faculty member is expected to offer a more streamlined design sequence that incorporates traditional techniques with computer-aided design, pattern design, and pattern grading. This will decrease the number of courses required by design students. Recruitment of APDM students will be enhanced by a new department Web page and by a proposed program name change from Apparel Product Design and Merchandising to Fashion Design and Merchandising, which has been submitted to the OVCAA. "Fashion" is a more common key word and is more familiar to potential students seeking careers in that field.

In the last two years, most of CTAHR's programs have reduced the minimum number of credits required for graduation. The table below compares the minimum number of credits required by CTAHR's undergraduate programs for the 2012–2013 academic year versus the 2010–2011 academic year.

**Minimum number of credits required for earning BS degrees in
CTAHR's undergraduate programs, 2012–2013 vs. 2010–2011.**

MAJOR	2012–2013	2010–2011
ANSC	120	128
APDM	120	127
BE*	128	128
FAMR	120	126
FSHN: Pre-professional, Sports & Wellness	120	128
FSHN: Dietetics**	122	128
NREM	128	128
PEB	120	128
PEPS	120	128
TPSS	120	128
* Accredited by ABET		
** Accredited by American Dietetic Association		

The only programs that require more than the university's 120 minimum number of credits are Biological Engineering (BE), Food Science and Human Nutrition's (FSHN) Dietetics Option, and Natural Resources and Environmental Management (NREM). The BE and FSHN Dietetics option have unique requirements imposed by national accreditation bodies. The NREM faculty presently are redesigning the NREM curriculum and anticipate reducing the number of credits needed for graduation to 120 in the coming year.

The following actions have been taken to promote and improve coordination across departments:

More cross-listed courses. Because CTAHR has had a policy of mandatory advising for many years, difficulties stemming from the unavailability of courses generally have been averted. To better coordinate course offerings across departments and colleges, CTAHR departments increasingly have cross-listed more courses with other CTAHR departments and with departments outside the College. In academic year 2010–2011, of the 153 cross-listed course clusters identified by the OVCAA, more than 25% involved CTAHR units.

Greater use of STAR data. More frequently these days, decisions on the allocation of College resources are driven by productivity and efficiency; therefore, access to accurate and timely information relating to productivity and efficiency is critical in making such decisions. Quantitative data from STAR, as well as other relevant information, are often used as the basis for such decision-making.

Enhanced inter-college collaboration. CTAHR is striving to extend its academic curriculum outside the College. A proposal has been submitted to the OVCAA for CTAHR's Biological Engineering (BE) program, which will be jointly administered and supported by CTAHR and the College of Engineering. CTAHR also has taken steps to better articulate its courses and programs with other colleges within the UH system. For example, ANSC 321, Applied Animal Nutrition, was recently taught at both UH-Hilo and UH-Mānoa, and UH-Mānoa

recently drafted a Memorandum of Understanding to articulate Leeward Community College's Plant Biotechnology certificate program with CTAHR's Tropical Plant and Soil Science (TPSS) and Plant and Environmental Protection Sciences (PEPS) undergraduate programs. The articulation agreement has been approved at the highest level at UH-Mānoa and now awaits approval by administrators and faculty at Leeward Community College. We have also held discussions with Kaua'i Community College and University of Hawai'i-Maui College to initiate similar agreements.
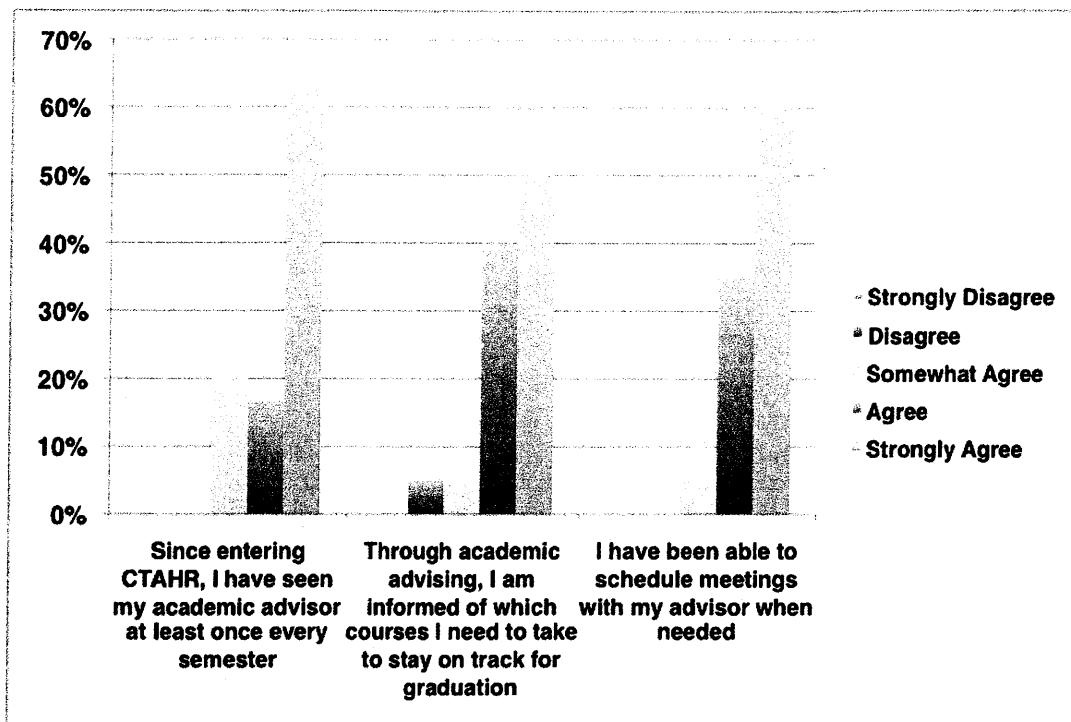
Enhanced external collaboration. CTAHR units also are partnering outside the university to improve training for our students. To become a Registered Dietitian, students must earn a degree from an accredited dietetics program and perform an accredited year-long dietetic internship. Presently, graduates of our accredited dietetics program must be placed in internships on the mainland at considerable expense to the students. Hawai'i has unique health care opportunities, foodways and dietary conditions, and populations that are being served by local professional dietitians. These offer excellent opportunities for training local students as well as students from the mainland and Pacific jurisdictions. CTAHR is developing an accredited Hawai'i-based dietetics internship program, which will draw on mentors and internship sites throughout the state.

5. Address concerns related to implementation and evaluation of mandatory advising and the impact of advising on faculty workload given the heavy instruction, research, and extension requirements of limited faculty resources.

Long before UH-Mānoa had a policy of mandatory advising, CTAHR required students to meet with academic advisers in their majors every semester. Two departments, FCS and HNFAS, have taken advantage of peer advising support provided by the VC for Academic Affairs. Based on their positive experiences, it is very likely that other departments will also request UH-Mānoa peer advisors. Other units in CTAHR are adopting innovative approaches to improve academic advising. For example, in Fall 2011, CTAHR's Pre-Veterinary Medicine track hired three students to serve as peer advisors to assist with student advising and recruitment.

Although the hiring of professional student advisors (APTs) in departments has been discussed within the College, feedback from departments indicates that the STAR Academic Journey/Planner has reduced traditional advising responsibilities, leaving more time for mentoring and career planning, which are better performed by faculty members.

In Spring 2011, a focus group of undergraduate and graduate students, representing all CTAHR departments, assessed the College's academic advising. The results, summarized in the figure below, indicate that in general, students meet with their advisors on a regular basis and are satisfied with the quality of advising they are receiving.

70% — 60% — 50% — 40% — 30% — 20% — 10% — 0%

Since entering CTAHR, I have seen my academic advisor at least once every semester

Through academic advising, I am informed of which courses I need to take to stay on track for graduation

I have been able to schedule meetings with my advisor when needed

- Strongly Disagree
- Disagree
- Somewhat Agree
- Agree
- Strongly Agree

Assessment of academic advising by CTAHR student focus group

Additional Issues Raised by VCAA Dasenbrock

In VCAA Dasenbrock's September 13, 2010, memorandum to Interim Dean Sylvia Yuen, Dr. Dasenbrock wrote,

"It is clear that other issues such as the cost of maintaining CTAHR's current array of facilities in the way they are currently managed—less prominent in the 2008 Program Review though mentioned there—have increased in prominence."

CTAHR's off-campus facilities are essential to the College's achieving its mission and vision to diversify Hawai'i's economy, ensure a sustainable environment, and strengthen communities throughout the state. The 22 experiment stations and county offices, covering 1,600 acres on five islands, are located strategically throughout the state, based on local agri-environmental conditions and proximity to farmers and other community stakeholders. Each off-campus facility is a representational foothold of the University's presence in the community, nurturing communal investments, legacies of relationships, and conservancies of valuable genetic lines of food and fuel crops and native flowers. The off-campus facilities comprise a vital infrastructure for Hawai'i's food security, providing research capacity that ensures a path to goals established in the Hawai'i 2050 Sustainability Plan by supporting local food production to lessen Hawai'i's dependence on imported food supplies. Growing national, state, and county concerns regarding food security and sustainability have highlighted and reinforced the importance of colleges of agriculture and their off-campus research and extension facilities. This is demonstrated by the

support of policymakers and community stakeholders for CTAHR and its facilities that serve various industry and community groups throughout Hawaiʻi.

To give but two examples of the importance of off-campus facilities, the Magoon Instructional and Research Facility in Mānoa provides vital instructional hands-on field experience for students, close to the teaching classrooms and molecular biology laboratories on the main Mānoa campus, while also serving as an important R&D site for the landscape, floriculture, and other agricultural industries. The Small Animals Facilities at Magoon is suitable for instructional classes in the anatomy of agricultural animals and research on mice for gene characterization. Likewise, the Urban Garden Center in Pearl City continues to develop as an important educational outreach resource for the community, particularly for school children and residents who live in urban settings. It is an exemplar for other land-grant colleges, as noted by USDA officials and deans of Western region land-grant institutions who have visited the Center and who refer to it as a best practice example.

Funds to enhance CTAHR's off-campus facilities have been provided by the state and the University. In the past year, the Komohana Research and Extension Center on Hawaiʻi Island has completed its Phase I renovation project, and Phase II has been initiated. These buildings serve as extension offices and laboratories and offer direct benefits to the greater Hilo community and industry stakeholders. On track is the acquisition of former Meadow Gold Dairy land in Waimānalo. The sub-divisions have been approved by the City and County Department of Planning and Permitting, and the environmental assessment final report will be issued later this year. Enhancements have also been made to indoor and outdoor classrooms at Waimānalo. Renovation of the Magoon greenhouses has been completed; the outstanding punch list items for this facility are being resolved, and it has been fully operational for the last two years. Additional staff has been hired for the Master Gardener Program with the goal of strengthening its presence in every county and growing the program statewide.

In the summer of 2010, a CTAHR Facilities Task Force comprised of five members was established to evaluate CTAHR's off-campus facilities. The Task Force has visited all of the College's off-campus facilities; conducted meetings with local managers, staff, and faculty; and solicited comments and suggestions regarding the improvement of off-campus facilities on two occasions. The Task Force is now getting ready to issue its final report. Major decisions on the future of CTAHR's off-campus facilities will be made after the Task Force issues its report.

"We also discussed the challenge to the extension mission posed by the rapid pace of change in the agricultural industries of the state at the same time that the funding to the College from state and federal sources is diminishing. We will need to make progress on all these issues in the next year..."

CTAHR is meeting the challenge to its extension mission posed by evolving needs and the diminishment of funds from traditional sources. The Cooperative Extension Service (CES) is an integral component of CTAHR, one of the hallmarks of its identity as the founding college in Hawaiʻi's land-grant institution. The following presents the strategies we implemented to reduce costs, achieve efficiencies, and leverage funds to ensure that CTAHR's outreach mission continues to provide excellent service to our community clientele.

Reduce costs. Because of budgetary restrictions, College administrators worked with County Administrators to implement the following measures to reduce costs in off-campus facilities:

- 10% reduction in electricity allocation;
- 40% reduction in upkeep funds;
- Use of networked scanners to reduce paper usage;
- Reduction of neighbor island travel by utilizing video conferencing;
- Elimination of underutilized phone and fax lines;
- Reduction in number of hours air conditioning is provided to offices and laboratories;
- Installation of individual room air conditioning units in the Kahului Extension Office (replacing central air conditioning), which are turned off when not needed.

Leverage funds. Extension faculty members have been encouraged to seek extramural funds and have responded positively. They have been successful in obtaining funds from federal, philanthropic, county, and other sources to support a variety of outreach programs on topics of importance to Hawai'i's agriculture, residents, and communities. The following are examples of extramurally funded projects:

- *Operation Military Kids,* funded by the Department of Defense and National 4-H
- *Local Immigrant Farmer Education Program*, funded by the USDA Risk Management Agency
- *Sustainable and Organic Agriculture*, funded by the USDA Sustainable Agriculture Research and Education
- *Diabetes Detection and Prevention*, funded by the Centers for Disease Control and Prevention

While the overall mission of the CES—to provide practical instruction on agricultural and family resource issues—has endured, the nature of the extension clientele and their needs have changed dramatically over time. To illustrate, as the state has urbanized over the past several decades, CES has developed new programs such as urban horticulture to serve the evolving clientele. At the same time, extension faculty have continued efforts to increase local agricultural productivity; further the cultivation and processing of specialty crops and products; manage Hawai'i's land and water resources for a sustainable future; battle invasive pests; and promote physical, mental, and economic health in Hawai'i's citizens and their communities.

Collaborate for maximum impact. We have assessed our strengths and identified gaps in services and implemented a strategy wherein there is greater collaboration among Extension faculty within and across program areas. Statewide working groups have been formed on Beef, Nutrition, Master Gardeners, and 4-H, and state leaders have been appointed. These groups are provided funds to meet, coordinate activities, and share materials. Group initiatives have included joint conferences and training and shared Web sites, program policies, guidelines, extension materials, and curricula. Initiatives have also been taken to train and engage volunteers to assist in delivering extension information to the public. This has allowed the College to multiply its outreach to the public despite reduced faculty numbers.

Enhance integration of research and extension. CTAHR has significantly integrated the College's research and extension programs to increase efficiency and coordination. Because information generated through research is provided to the public through extension programs, it is important to integrate these activities and to avoid program silos. We have provided incentives to encourage greater collaboration among new and existing College research and extension projects. Integrated projects receive priority for funding and are required to report on how the integration of research and extension is achieved. In early 2011, for example, $950,000 in federal research and extension funds was awarded to CTAHR faculty through a competitive process that prioritized integration, encouraged multi-state cooperation, and emphasized the five priority program areas established by USDA/NIFA. Of the 69 proposals submitted, 26 were selected for funding, representing projects across all departments in the College (see Attachment A for list of projects).