CTAHR-Maui County is in administrative unit of CTAHR with Cooperative Extension and Agricultural Experimentation Station facilities and personnel located in Kahului and Kula on Maui and Hoolehua on Molokai. These off-campus units facilitate and support delivery of CTAHR’s UH Land Grant programs to stakeholders and citizens of Maui County.

**Guiding Questions for the Review Process:**

- **What are the main goals and objectives of the program?**

  The Cooperative Extension System (CES) is a national educational network with a broad objective to extend the research-based knowledge and education of land-grant universities (the University of Hawaii is our state’s land grant university) to the public, encouraging individuals to use this information in making useful, practical decisions in their daily lives. The CES is a partnership including the Cooperative State Research, Education and Extension Service (CSREES), an agency of the United States Department of Agriculture; 106 Land Grant Universities in every state and territory; and more than 3,100 county and city Extension offices. The main goal of CES is to “enable people to improve their lives and communities through learning partnerships that put knowledge to work.”

  On Maui, the Cooperative Extension office is located on the campus of the Maui Community College, and on Molokai a new office was just completed in Hoolehua on land leased from the Department of Hawaiian Homelands. Many groups, in addition to the general public, depend upon CES as a source of reliable information, education and programs in many areas.

  The agricultural experiment station (AES) conducts scientific investigations to solve problems and suggest improvements in the food and agriculture industry. Experiment station scientists work with farmers, ranchers, suppliers, processors, and others involved in food production and agriculture. Each state has at least one main station, usually located at and associated with a land-grant university. Most states have branch stations to meet the special needs of different climate and geographical zones in those states; Hawaii has branch stations on Kauai, Oahu, Maui and the Big Island.

  In Maui County, the Maui Agricultural Research Center (MARC) is located in Kula. Staff housed at MARC also conduct activities at other substations, including CTAHR’s Haleakala AES, Maui County’s Kula Agricultural Park, Alexander and Baldwin’s (A&B) Low Elevation Demonstration Farm (which is leased to CTAHR and Hawaii Agricultural Research Center), and CES’s Education and Demonstration Garden. On Molokai, field activities are carried out at Maui Community College’s Demonstration Farm.

- **What are the services it provides, and to whom (students, faculty staff, donors, other)?**

  CTAHR-Maui County facilitates the delivery of CTAHR’s programs to county stakeholders. CTAHR’s Extension and Research sub-programs are listed below with the number of Maui County faculty with a portion of their assignment in each given in parentheses, with R=extension, E=extension:

  1. Sustain, protect and manage Hawaii’s natural resources and environment (1R, 2E)
  2. Hawaii’s diversified tropical crop systems for sustainability and competitiveness (1R, 5E)
  3. Hawaii’s livestock and aquaculture systems for sustainability and competitiveness (2E)
4. Invasive species education and management (4E)
5. Youth, family and community development (4E)
6. Health and wellness of Hawaii’s families and communities (3E)
7. Generate and improve Hawaii’s products, processes and market (3E)

Four of the six CTAHR departments have faculty based in Maui County to carry out programs, including:
1. Tropical Plant and Soil Sciences (1R, 5E)
2. Human Nutrition, Food and Animal Sciences (2E)
3. Plant Environmental Protection Sciences (1R, 1E)
4. Family and Consumer Sciences (2E)

Two researchers and seven extension faculty are located on Maui, and three extension faculty are located on Molokai.

CES provides informal instruction, technology transfer, problem solving, and general informational resources in support of diversified agriculture, protecting the environment, and strengthening families and communities. AES provides research and demonstration capabilities in local environments. Resource materials are developed from UH CTAHR and from the national CES and AES networks.

These services are provided to numerous stakeholders including:
1. Agricultural commodity groups such as the Maui Onion Growers Association, Maui Flower Growers Association, Maui Association of Landscape Professionals, Maui Cattleman’s Association, Maui Coffee Growers Association, Protea Growers Association of Hawaii, Hawaii Golf Course Superintendents Association,
2. Collaborating county and state agencies including Maui Community College, Department of Hawaiian Homelands, Hawaii Department of Agriculture, and USDA’s Natural Resource Conservation Service, Hawaii State Department of Health, and Maui County Office of Economic Development, Maui County Office of Aging, Maui County Early Childhood Resource Center, Maui Economic Development Board, Maui Invasive Species Committee, East Maui Watershed Partnership,
3. Volunteer organizations including the Maui County Farm Bureau, Maui Master Gardeners Association, Maui 4H Organization, Maui 4H Leaders Organization, Maui 4H Livestock Association, Maui Association for Family & Community Education, Maui County Fair Association, The general public in the broad area of gardening and landscaping.

• What services does it receive from others?
CES receives volunteer services from groups to carry out education and outreach activities to the public, including from the Maui Master Gardener Association and the 4H organizations; they provide assistance with public events and assistance in answering public inquiries on specific topics. CES receives free building maintenance and cleaning services from Maui Community College. At both Kahului and Hoolehua, CES receives free use of land for demonstration plots from MCC.

AES receives free land ($1 per year) and water at the Low Elevation Demonstration Farm from A&B Corporation, and receives free land at the Kula Agricultural Park from Maui County Office of Economic Development. These parcels were donated to enhance CTAHR’s ability to provide research and demonstration plots for the ultimate benefit of agricultural producers in Maui County.

• On what tasks/services does this program collaborate with others?
CES often collaborates with other agencies and groups to educate stakeholders on new regulations, new technologies, ag business and marketing training, farm and food safety, invasive species, and to carry out programs to strengthen families and communities. Collaboration occurs with the many agencies and groups identified above in the second bullet.

**Are these services elsewhere available at the University? In the surrounding community?**
In the land grant university system, these unique services are provided to the local stakeholders and public through local CES and the AES facilities. There are groups in the community who provide some overlapping outreach services, though they are often narrowly focused with specific agendas and do not always provide research-based information that is the foundation and value of the information and programs from UH-CTAHR.

**What is the funding source(s) (state, self-sustaining, grants, etc)? At what level?**
All amounts are for the most recent fiscal year.

For the CES administrative units, the funding source is state and federal funds from UH CTAHR for operations and electricity, which includes;
- $25,400 for Kahului CES operations; $12,000 state funds, $13,400 federal funds*
- $16,000 for Kahului CES electricity; state funds
- $12,700 for Hoolehua CES operations; $6,800 state funds, $5,900 federal funds
- $4,000 for Hoolehua CES electricity; state funds

For AES, the funding source is state funds from UH CTAHR;
- $42,700 per year for operations at Maui Agricultural Research Center, Kula; state funds
- $18,000 per year for electricity at Maui Agricultural Research Center, Kula; state funds

*Note that these federal funds are ‘formula funds’ exclusive to Land Grant Universities for CES operations, and for CES and AES faulty programs (below) and require state matching.

Federal formula funds for CES and AES faculty programs;
- $42,400 for extension, research, and environment-specific funding for CTAHR-Maui County faculty.

Faculty programs (though not operations or electricity) at both CES and AES have received line item funding as an annual grant from the Maui County Government through the Mayor’s Office of Economic Development since 2005, currently $130,000 per year. Maui is the only county to provide such line item funding to assist the UH and CTAHR in delivery of their programs to local stakeholders. The line item funding was obtained through the strong support of the Maui County Farm Bureau, the Mayor’s Office, and the County Council, in recognition of past achievements and continuing need for our services.

In addition, Maui County based faculty receive other grants for their programs:
- $145,000 from Agricultural Development Corporation, Hawaii State Department of Agriculture, for waste management handling systems using anaerobic digestion, Kahului CES
- $55,000 from the Federal Floriculture Research Program for the Protea Improvement Program at MARC
- $25,000 for USDA for Statewide Cooperative Extension program in Fruit Fly Management, Kahului CES
• $15,000 from Maui Economic Development Board, Ke Ala Hele program, to the Maui 4H Organization through CES for STEM projects including robotics, Kahului CES
• $15,000 combined from BASF ($12K) and Monsanto ($3K) to the Landscape, Ornamental and Turf program to test herbicides, Kahului CES

Revolving funds are generated from fees for services at CES and sale of products from AES, and these funds are used to offset deficits in operations. At CES, the available fund (RCUH and UHF) is approximately $8,000. At AES, the available fund is about $6,000.

The Department of Hawaiian Homelands pays the salary of one of the Extension faulty based in Hoolehua, Molokai, and also provides annual funds for program assistance to Hawaiian homesteaders. The most recent annual (FY 2008-2009) figure is $77,438.30.

The new CES office building in Hoolehua was funded for $1.1 million by a 2007 Hawaii State Legislature bill and is scheduled for occupancy this year.

• Are there needs and demands for services that the program cannot meet? What are they, and how do they relate to the University’s mission?
In Maui County there is a large need to deliver educational workshops on a continuing basis on water and nutrient use efficiency, to commercial producers (farms and nursery), resorts and homeowners. The continuing drought combined with limited prospects for increased water development, storage and transmission dictate that major improvements in water use efficiency be implemented. Meeting the needs of stakeholders in efficient use of resources is part of the mission of CES.

• How many, and what type of staff are employed?
The research and extension referred to in the first bullet above (Two researchers and seven extension faculty on Maui, and three extension faculty on Molokai.) are technically attached to academic departments in CTAHR, and though located in Maui County, only the staff specific to the county facilities are noted here:
1 County Administrator for CES and AES, executive position
1 CES Secretary, Kahului, civil service
1 CES Clerk, Hoolehua, civil service
1 AES Clerk, Kula, civil service
1 AES Farm Manager, Kula, civil service
9 AES Agricultural Research Technicians, 8 Kula, 1 Hoolehua, civil service

• What are the basic responsibilities of each position? Which individuals are cross-trained and in what areas?
County Administrator is responsible for facilities, personnel, program and budget for CES and AES, Secretary and Clerks responsible for completion and submission of fiscal, personnel, travel and routine correspondence,
Farm Manager is responsible for daily management of AES and assignment of work to technicians, Agricultural Research Technicians are responsible for all activities in conducting greenhouse and field trials and maintaining AES sites.

County Administrator is cross-trained as a researcher and educator in Soil Science and Biotechnology, The Secretary and Clerks are cross-trained to carry out each others tasks, The Farm Manager is an experienced Agricultural Research Technician and plant breeder,
One Agricultural Research Technician is a plant breeder, All Agricultural Research Technicians are cross-trained in same tasks (plot layout, irrigation installation and adjustment, application of fertilizers and other chemicals, disease and insect scouting, labeling, harvesting procedures, and maintenance of AES sites. Farm Manager and three Agricultural Research Technicians self taught in mechanical repairs

- **What technologies are available? Are there technological improvements that could be made to save on labor, or to improve the product/service offered? How does the program get technological support?**
  High speed internet is available at CES and AES
  Polycom video conferencing is available at CES
  Modern, environment-controlled greenhouse at AES could significantly improve research.

- **How is the program’s success reviewed? By whom? How often?**
  The Agricultural Research Technicians are reviewed annually by the Farm Manager,
  The Farm Manager, Secretary and Clerks are reviewed annually be the County Administrator,
  The County Administrator is reviewed annually by the Dean of CTAHR

- **What data or evidence does the program have that reflects on its performance?**
  For AES; plot allocations reflect use by CTAHR faculty (statewide), products adopted by growers (protea and taro varieties), and adoption of nutrient and water use management by producers.

  For CES; number of participants in workshops, number of participants in programs, adoption of recommendations (e.g. fruit fly control and diamond back moth resistance schedules). All extension personnel are required to develop and submit a 5-year Plan of Work and report annually their accomplishments.

- **Do our peers have a similar program? How do they differ?**
  Peers at other Land Grant Universities in the nationwide system of CES and AES have very similar programs. The main differences are in geographical area covered (depending on the state they can be larger or smaller areas), staff support which is generally reflective of the budget, agricultural commodities covered which vary by region, and funding arrangements with local governments – many provide specific operations or even staff salary support.

- **What opportunities exist for greater collaboration and team approaches in the delivery of services?**
  Statewide responsibilities of CES faculty would enhance delivery of services, Collaboration with agricultural and science instruction programs at Maui Community College could help deliver program mission through formal instruction and provide students opportunities to participate in CES and AES activities – an integration at the UH System level.

- **Are there efficiencies that could be gained by consolidating with a similar entity? Have such opportunities been explored before? If so, what was the outcome?**
  Consolidation with an external entity would be difficult due to uniqueness of the CES and AES mission and objectives. Internally, efficiencies might be gained by consolidation of AES (Kula) and the CES offices (Kahului and Hoolehua) at one facility – probably the Maui Community College campus, current location of CES Kahului office. A combined center for CTAHR’s Cooperative Extension and Agricultural Experiment Station on the community college campus with its students and science instruction programs might
benefit all concerned. To my knowledge, this has not been explored before, and would require careful deliberation.

- **What strategies could result in better efficiencies in the program?**
  More fee-based projects and services,
  Develop a CTAHR Store at CES and AES offices to sell our products (seed, plants, produce, and publications),
  Increase recruitment of volunteers to enhance delivery of programs,
  Enhanced video teleconferencing capacities at each site to reduce travel (especially to Manoa).