

**Sustainable Agriculture Skill Panel Forum**  
**May 11, 2012**  
**Application of Automation & Technology**

**Chair:** Steve Lupkes

**Facilitator:** Bobbie Bolt

**Recorder:** Ruth Caldwell

**Attendees:**

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|-------------------|--------------------|
| 1. Leo DuBois     | 8. Herbert Keamoai |
| 2. Bruce Getzan   | 9. Vicki Lau       |
| 3. Brent Godshalk | 10. Jan Miyamoto   |
| 4. Keith Horton   | 11. Joan Morita    |
| 5. Elizabeth Ito  | 12. Roy Oyama      |
| 6. Chris Kauwe    | 13. Ryan Oyama     |
| 7. Gilbert Kea    | 14. Randy Uyehara  |

**Discussion Outline:**

- I. Introductions: Why are we here?
  - II. Setting the Context Discussion:
    - a. What is the current state of communication between educational entities and the agriculture industry on applications for automation and technology?
    - b. What is the current state of labor and labor shortages affecting applications of automation and technology?
  - III. Preferred Vision in 10-20 Years: Best Case Scenario
  - IV. Develop Priorities
    - a. What are the opportunities or supporting forces that will move us closer to our best case scenario/vision?
    - b. What are the barriers or restraints that hold us back from moving closer to our best case scenario/vision?
  - V. Outline Actions for Priorities
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**I. Introductions: Why are we here?**

- Discuss information and challenges about Kauai's agriculture industry
- Network
- Find resources for farmers to utilize computers
- Help Farm Bureau and agriculture
- How we can help with bio-fuels
- To help small farmers with beekeeping
- To get more students interested in agriculture
- How to get land to farm
- To find agriculture talent with a tech base
- Find ways to "grow our own" agriculture talent on Kauai and find what training needs

- exist
- Find expertise in field automation

## II. Setting the Context Discussion

### ***What is the current state of communication between educational entities and the agricultural industry on applications for automation and technology?***

- Kauai Community College is focusing on Green sector (like Photovoltaic). PV classes were organized on Kauai and taken to other islands.
- Many modern agriculture workers need three types of skills/background to get jobs with big agriculture companies: 1) mechanical, 2) agricultural, and 3) computer/technology. Unfortunately, very few meet all three criteria, and therefore big companies are having to contract work out and bring in folks from overseas.
- Education offers hands-on training, but much is book focused. After training farmers are on their own, but they need continuous guidance.
- Kauai agriculture industry once focused on mentoring and apprenticeships, but now it mainly focuses on automation.
- Much of today's agriculture training is geared toward working at large-scale agriculture companies, but training should also focus on empowering farmers to be independent small farmers.
- Internships are beginning to entice high school students.
- There has been no official post-secondary program for agriculture until Kauai Community College recently hired an Agriculture professor to start an agriculture degree program. However, cluster training may still be necessary.
- Kauai Community College is trying to take classes into the community (like the high school) and hired the new agriculture professor because of previous community input.
- Need to schedule classes around farmers' schedules.
- Kauai Community College is offering online classes too since it is difficult to fit farmers' schedules.
- Some simply mix and match agriculture classes to become an entrepreneur.
- It's difficult to get a straight answer about what's going on at the high school, college, or other educational programs, and many programs overlap.
- Kauai Community College tries to be the communication hub to get agriculture information out to farmers.
- Kauai Community College visits farmers to find training needs.
- Need to introduce students to agriculture mentors first and then give them classes because they need mentors even more than education.
- Farmers need mentors that will last beyond education.
- Most potential agriculture mentors are looking for a student who will give free labor and has a willingness to be taught.

***What is the current state of labor and labor shortages affecting applications of automation and technology?***

- Most youth don't like hard work, so automation fits them well but is not always possible for all agriculture jobs.
- Page 23 of the LMI report shows negative or stagnate job growth in the agriculture industry, so many aren't interested in agriculture and technology.
- Agriculture is not always introduced before high school, so young people are hearing good press about agriculture early on.
- Recent high school grads in the labor force have great computer/technology skills so they are well suited for many agriculture jobs, but they often lack work readiness skills like punctuality, a basic understanding of scientific principles, critical thinking, logic, etc.
- Students do not have clear pathways into agriculture careers (both working for big or small farmers or entrepreneurship).
- Critical skills are driven by the desire of the individual.
- Schools are not teaching the needed foundation so new employees' minds aren't able to absorb what they need to know.
- The agriculture industry usually has two types of employees: 1) book smart or 2) hands-on. Both are useful.
- Employers need employees who show up, care, and have a willingness to get their hands dirty.
- The Waiale'ale program gets individuals to be successful by teaching work ethics, but it takes extra work.
- There's a small network of people who mentor but there's no clearinghouse to help connect potential mentees with mentors.
- Currently, you have to know to go to a specific organization to find a mentor because there's no listing of all opportunities.
- Not taking enough advantage of events like Earth Day to make connections to folks interested in farming and plug-in to the community.
- Kauai is a small island with big shipping costs.
- Huge industry change from sugar to seed companies. We're now experiencing a lack of researchers, management, etc.
- Agriculture is now being taught early in school with a new attitude that "agriculture is not for dummies" and you can make a living.
- Some kids get a college degree and come back, but internships are key to bringing more skilled locals home.
- We are not growing our own workforce.
- Technology isn't advancing here because there isn't the volume of business yet.
- Workers need to know about specific plants and how they grow before Kauai can begin automating.
- Automation won't work for everything, like cultural crops such as taro.
- Many interested in agriculture industry lack business skills like writing a business plan, researching, real estate, Quickbooks, etc.

- Farming should be viewed as a business and farmers need to understand banking, loans, and grant writing.
- Farmers need marketing skills, like building or using a website, basic understanding of using the internet, etc.
- Most state resources are online, so farmers need computer access and internet navigation skills.

### **III. Preferred Vision in 10-20 Years: Best Case Scenario**

***10-20 years from now, from a workforce development perspective, what is the best case scenario for a robust application of automation and technology?***

- Agriculture education starts in elementary school to show kids agriculture is productive and gets results
- Clear pathways into jobs at big, small, and seed farms used in schools.
- Kauai is sustainable and grows its own food.
- Partnerships are common in the agriculture industry.
- School gardens where kids can eat the food they grow in the school cafeteria.
- Agriculture industry no longer goes to the mainland for workers because there are too many local, qualified agriculture workers to choose from.
- Agriculture workforce is sustainable with "old timers" offering apprenticeships/mentorships.
- Farmers have current computer and marketing skills and use current communication technology.
- Agriculture business and use of current agriculture technology on-island has grown so much that food is sustainable and farms can export.
- Affordable agriculture workforce housing.
- Workers have work readiness skills and can be counted on to show up.
- Companies invest in training local employees instead of bringing in new specialized employees from the mainland even if it means sending them to the mainland for training and bringing them back.
- Programs exist so that kids graduating from high school can work for local companies who send them off for training if they agree to work for that employer a certain amount of time upon return.
- More people are pursuing an agriculture education with multiple educational opportunities available.
- Strong, vibrant Future Farmers of America program developing leadership, critical thinking, work readiness skills, etc.
- Close partnership between education and employers.
- A co-op exists where experienced aggies are credited with degree equivalent credit for life experience and are training new farmers in mentorship programs, along with a business leg of the co-op with high production, high training (for products like honey, with an element of profit-sharing. The co-op will encompass the spiritual and economic needs of members and is self-sustaining.

- Beef processor on-island.
- Culinary areas department at UH tours the slaughterhouse.,
- Agriculture skills taught in all educational institutions, not just UH, and education follows a natural progression through college.
- All agriculture equipment runs on renewable energy (PV, wind, etc.) and is not dependent on fossil fuels.
- Skill training available for renewable energy.
- All community college equipment is open and available for public use.

#### IV. Develop Priorities

<i>What are the <b>opportunities or supporting forces</b> that will move us closer to our best case scenario/vision?</i>	<i>What are the <b>barriers or restraints</b> that hold us back from moving closer to our best case scenario/vision?</i>
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#### Priority 1: Skill Development / Education (E) (13 votes)

<ul style="list-style-type: none"> <li>• Internships</li> <li>• CTE programs in high school offer science credit for Agriculture</li> <li>• Kauai County Farm Bureau and industry leaders could offer more candidates for scholarships and have more scholarship opportunities</li> <li>• Revitalize agriculture with re-zoning and tax incentives</li> <li>• Kauai Community College programs</li> <li>• Recognition of experience/give credit to potential mentors for their experience</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture curriculum with CTE competes with other similar pathways</li> <li>• Standardized tests have moved away from an agricultural focus</li> <li>• Many students not aware of agriculture scholarships (counselors act as gatekeepers and don't give applications to everyone)</li> <li>• Many students are impacted by the anti-GMO movement</li> <li>• Farmers have to go through education system but many great potential farmers aren't successful at school and would do better with a mentor</li> </ul>
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#### Priority 2: Information (I) (9 votes)

<ul style="list-style-type: none"> <li>• Have an informational clearinghouse website for education, agriculture resources, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Disconnect between farmers and available information on resources</li> </ul>
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<p><i>What are the <b>opportunities or supporting forces</b> that will move us closer to our best case scenario/vision?</i></p>	<p><i>What are the <b>barriers or restraints</b> that hold us back from moving closer to our best case scenario/vision?</i></p>
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**Priority 3: Community (C)**  
**(7 votes)**

<ul style="list-style-type: none"> <li>• More diverse participation in Agriculture industry groups such as Farm Bureau, Cattlemen’s Association, etc., with groups working closely together</li> <li>• Share/Co-op/Partnership</li> </ul>	<ul style="list-style-type: none"> <li>• Not enough collaboration in agriculture</li> <li>• Supermarkets have issues complying with new Farm Bureau program that tells people on the smart phone where local produce is available</li> <li>• Not enough farmers producing</li> </ul>
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**Priority 4: Funding / Economics (F/E)**  
**(5 votes)**

<ul style="list-style-type: none"> <li>• Affordable workforce housing</li> <li>• Agriculture-use water availability</li> <li>• Funding for agriculture education/ Post-secondary/Kauai Community College</li> </ul>	<ul style="list-style-type: none"> <li>• Not enough affordable workforce housing mixed with a high cost of living</li> <li>• Difficult financially to start a farm</li> <li>• Entry level farming doesn't pay enough for young farmers</li> <li>• Regulatory barriers like local food and state regulations make it difficult for small farmers who can't financially afford to comply (many regulations are cost prohibitive, especially organic regulations)</li> </ul>
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**Priority 5: Perception (P)**  
**(4 votes)**

<ul style="list-style-type: none"> <li>• Promote "Hawaii-grown" retail at farmers markets with value-added products and quality marketing</li> </ul>	<ul style="list-style-type: none"> <li>• GMO is against Hawaiian culture and the spiritual power of Agriculture</li> <li>• Negative perception that agriculture "isn't cool" or "doesn't make money"</li> <li>• Some farmers feel like the Farm Bureau is against organic farming</li> <li>• Farm Bureau promotes organic farming but there is a disconnect with some organic farmers perceiving otherwise</li> <li>• Conceptual barriers that could be</li> </ul>
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	<p>solved by co-ops</p> <ul style="list-style-type: none"> <li>• Perception there is not a clear definition of "organic"</li> </ul>
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## V. Outline Actions for Priorities

### Priority 1: Skill Development/Education

- Increase farmer computer literacy
- Complete the CTE agriculture pathway standards and separate agriculture and science as a career pathway with the DOE (don't make it a general "Natural Resources" pathway)
- Return science credit to agriculture
- Recognize expertise in agriculture field and offer high school or college credit for it
- Give internships
- Collaboration of active mentors for alternative education
- Support a strong, vibrant Future Farmers of America program in high school to develop leadership and work readiness skills
- Develop alternatives to formal agriculture education (like co-ops/internships/mentorships)
- Interview skills – use industry representatives to do mock interviews and teach resume/application skills
- Kauai Community College continue to develop and offer Agriculture programs
- Create a system of agriculture programs K-12 to Post secondary and alternative skill development programs

### Priority 2: Information

- Develop and establish an agriculture database with information like:
  - list of producers
  - list of consumer wants
  - list of potential mentors/internships
  - educational opportunities
  - agriculture links and websites
  - agriculture organizations
  - list of scholarships

### Priority 3: Community

- Co-ops partner and share information, experience and education, financial, leverage skills and resources
- Promote and enlarge community agriculture groups like 4-H and Future Farmers of America
- Commodity groups become more involved in community to promote Agriculture awareness