



food & agriculture • health & wellness • recreation • arts & culture • high technology • renewable energy



Kauai Economic Development Plan

Kaua'i's Comprehensive Economic Development Strategy (CEDS) Report

2005 - 2015



County of Kaua'i Office of Economic Development
Kaua'i Economic Development Board

Kaua`i Economic Development Plan 2005 – 2015

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Strategy (CEDS) Report**

**County of Kaua`i, Office of Economic
Development**

Kaua`i Economic Development Board

September 2004

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1.0 EXECUTIVE SUMMARY

Kaua`i's economy has sustained strong growth over the past few years. In spite of September 11th terrorist attacks and wars in Afghanistan and Iraq, Kaua`i's visitor, real estate, and construction industries have been healthy. Kaua`i's unemployment rate is 3.9%, lower than the U.S. unemployment rate of 5.7%.

Underlying, Structural Issues

Yet there are underlying issues that raise concern over Kaua`i's economic future:

- ? Household incomes are low. 36% of households on Kaua`i have incomes that qualify them as "economically needy"
- ? None of Kaua`i's 10 largest occupations pay living wages
- ? There is widespread "underemployment"
- ? Only 39% of Kaua`i's high school seniors are planning for additional schooling
- ? The median price of a single-family home is \$528,000

Guiding Principles

There is a general recognition that to improve Kaua`i's economy over the next 10 years, we must be guided by the following principles:

- ? *Economic Self-Sufficiency*: to minimize imports and promote import substitution
- ? *Economic Diversification*: to strengthen selected industry clusters to minimize dependence on a single industry

- ? *Economic Opportunity for all:* to offer training opportunities to give workers choices and to promote living wages

Approach to Economic Development

To address these concerns, a two-prong approach is recommended in this plan.

1. Address critical, structural issues impacting economic development
2. Proactively promote six emerging industry clusters

Goals

In response to the critical issues impacting economic development, five goals have been established.

1. To assist new and existing businesses in targeted clusters create new jobs
2. To facilitate career planning for students in elementary school and up
3. To expand and train the workforce to meet the needs of employers
4. To promote affordable housing
5. To improve the skill level and work readiness of students entering the work force

Prioritized objectives are described under each goal.

Industry Clusters

Cluster-based economic development focuses on investing in industry clusters that build a competitive advantage in an area. By targeting growth in selected clusters, investments will create well-paying jobs that build skills, improve the quality of life, and produce other desirable outcomes.

After analyzing historical growth, projected growth, competitive advantage, wage levels, and other criteria the following six clusters are recommended for Kaua`i.

- ? Food & Agriculture
- ? Health & Wellness
- ? Sports & Recreation
- ? Arts & Culture
- ? High Technology
- ? Renewable Energy

Priority Projects

Priority projects have been identified for each cluster. A sampling of priority **capital improvement projects** include:

- ? Treatment, handling, and packing facility
- ? Slaughterhouse
- ? Certified, commercial kitchen
- ? Health & wellness retreat center
- ? Ha`ena State Park improvements
- ? Koke`e State Park improvements
- ? Wailua Reservoir Education Center
- ? Permanent fair grounds for cultural festivals
- ? Renewable energy park

A sampling of priority **technical assistance** projects include:

- ? Conduct market studies for growers
- ? Produce a local farm/crop directory
- ? Form cluster working groups to coordinate stakeholders
- ? Create new or expanded programs for schools to attract students to professions in targeted clusters
- ? Provide marketing and business planning assistance to arts and culture enterprises
- ? Advocate for more legislative support on high technology issues
- ? Conduct a study of past efforts on Kaua`i, best practices from around the world, and future needs/market opportunities in renewable energy

Plan Implementation

Successful implementation of this plan will require the following:

- ? A partnership between the County Office of Economic Development and Kaua`i Economic Development Board to manage the overall plan implementation
- ? A broad-based advisory group comprised of business, government, and community representatives to provide guidance to lead agencies
- ? Identification of organizations to be responsible for the implementation of:
 - 18 objectives
 - Six cluster strategies

- ? Funds to organize and facilitate clusters, determine priorities, develop action plans, and implement next steps
- ? Development of action plans that clarify next steps, timelines, and roles
- ? Annual evaluation of performance measures
- ? Continuous communications between organizations that have a role in this plan, within each cluster, and with the community at large

With the above components in place, the Kaua`i community can work together to shape its economy in alignment with its values, vision, and guiding principles. A stronger and diverse economy will benefit future generations and help create opportunities for all.

2.0 INTRODUCTION

The Kaua`i Economic Development Board (KEDB) and the County of Kaua`i Office of Economic Development (OED) present the ***Kaua`i Economic Development Plan, 2005-2015***.

This plan is intended to serve as Kaua`i's economic development "road map" for the next 10 years. It is intended to guide all stakeholders who have an influence on Kaua`i's economic future.

For State of Hawai`i government purposes, this plan describes six emerging industry clusters and the strategies and infrastructure required to grow these clusters on Kaua`i.

For U.S. Department of Commerce, Economic Development Administration purposes, this plan serves as Kaua`i's ***Comprehensive Economic Development Strategy***. Priority infrastructure improvements and other projects are included for each industry cluster.

2.1 Definition & Values

Economic Development is defined in this plan as the process of positive change in the production, distribution, or consumption of goods and services.

Key community values, articulated in the ***Kaua`i General Plan, 2000***, form the foundation of this plan:

- ? Caring for our lands and waters
- ? Preserving our rural character
- ? Supporting culture and a vibrant, healthy community
- ? Providing opportunities for all in a strong, diverse economy

2.2 Background and Process

In January 2004, the **Office of State Planning** approached the **Kaua`i Economic Development Board (KEDB)** to conduct a study of industry clusters and the infrastructure needed to support growth in targeted clusters.

At the same time, the **County of Kaua`i Office of Economic Development (OED)** recognized the need to update the County's **Overall Economic Development Plan Update** (Comprehensive Economic Development Strategy), which was last done in May 2000.

In the first quarter of 2004, the **KEDB** and **OED** launched a joint planning process to accomplish both of their goals. NKN Project Planning and 3Point Consulting were retained to undertake the project.

In the second quarter of 2004, the **Kaua`i Comprehensive Economic Development Strategy Committee (CEDS Committee)** was formed to guide the planning process. About 30 representatives of business, government, social service groups, and community organizations agreed to serve on this

committee. The CEDS Committee met four times over the course of five months and provided guidance to consultants in the process.

In July 2004, five **focus group** meetings were held with representatives of six emerging clusters on Kaua`i. These clusters include:

- ? Agriculture & Food
- ? Healthcare & Wellness
- ? Sports & Recreation
- ? Arts & Culture
- ? High Technology
- ? Renewable Energy

Individuals who participated in cluster focus group discussions, phone interviews, and meetings are included in **Appendix A**.

A public hearing was held on August 17, 2004 to discuss draft recommendations and to obtain citizen feedback. A meeting summary is found in **Appendix B**.

A presentation of the draft plan was made to the **Kaua`i County Council** on September 16, 2004. Public comments were received until September 27, 2004 and incorporated into this final plan.

3.0 ISLAND-WIDE VISION

A 20-year vision for the island is described in the *Kaua`i General Plan*, 2000. Highlights of the island-wide vision include:

- ? A “garden island” of unsurpassed natural beauty
- ? A rural environment of towns separated by broad open spaces
- ? A vital modern society formed by the people and traditions of many cultures
- ? An island of distinctly individual towns and communities, each with its own unique history and character
- ? A rural place whose population size and economy have been shaped to sustain Kauai` s natural beauty, rural environment, and lifestyle

3.1 Economic Development Vision

The *Kaua`i General Plan 2000* also includes Kaua`i` s 20-year vision for economic development. This vision has been updated to reflect significant changes that have occurred on Kaua`i, the nation, and the world. Some of these changes include:

- ? Terrorist attacks on September 11, 2001 have raised security concerns and increased attention on homeland defense;

- ? The visitor industry was hard-hit by 9/11 and has undergone significant changes in marketing, direct transpacific flights, and increased interval and condominium ownership;
- ? In 2002, the privately-owned Kaua`i Electric Company was purchased by the Kaua`i Island Utility Cooperative (KIUC). All electrical users are now members of the KIUC.
- ? In 2002, the nonprofit Wilcox Health became part of the Statewide Hawaii Pacific Health.

**Overall Economic
Development Vision**

The updated economic development vision is as follows:

- ? Economy is strong, stable, and diversified
- ? While the visitor industry still provides the largest number of jobs (30-35%), new businesses in diversified agriculture, aquaculture, health and wellness, manufacturing, and high technology provide an increasing proportion of total jobs
- ? Many job opportunities exist
- ? Wages allow people to comfortably support their families
- ? Unemployment is low (3-5%)
- ? Kaua`i has a four-year college

- ? Preservation of Kauai` s special environment and culture
- ? Expanding local markets for local products and reducing imports
- ? More jobs with higher wages
- ? A strong education system which prepares Kaua` i` s children, teens, college students and adults to work in the diversified economy

Small Business Vision

- ? Foundation of Kaua` i` s economy
- ? Employs the largest percentage of the population
- ? County, State, and Federal governments support business by:
 - Providing needed infrastructure to towns and urban centers
 - Funding business assistance programs
 - Minimizing regulations and making them understandable
 - Providing limited tax incentives
- ? Government funds business start-up and technical assistance programs
- ? Access to start-up and expansion capital is available to qualified businesses

Visitor Industry Vision ? Vibrant and stable industry

- ? Average occupancy rates of 80%
- ? Mix of first-time and return visitors
- ? Kaua`i is known for:
 - Being a place of beauty
 - Friendliness to visitors
 - Valuing the natural environment and cultural traditions
- ? Kaua`i attracts higher-spending visitors with longer lengths of stay
- ? Average wage and benefits for industry employees are the highest in the State
- ? Proactive safety measures for visitors on land and waters have been implemented. Decreased crime against visitors.
- ? Kaua`i maintains its rural character
 - Height and size limits of visitor accommodations
 - Most hotels and resorts limited to Visitor Destination Areas (Princeville, Poipu, Wailua-Kapaa, and Lihue/Nukoli)ii)
 - Use of Hawaiian architecture and natural materials
- ? Older buildings in existing Visitor Destination Areas have been renovated and replaced
- ? New resort accommodations are smaller, low-key, and intimate

- ? New visitor accommodations on the West Side
- ? Vacation rentals, inns, and bed and breakfasts, where appropriate, provide alternative visitor accommodations. They are licensed and monitored by professional associations that establish operating standards for each type of visitor accommodation.
- ? Commercial and public facilities are clean and well-maintained
- ? Variety of active and passive activities for visitors
- ? People visit Kaua`i to learn about Hawaiian culture
 - Sites and practices presented with respect and authenticity
 - Sites are protected, restored, and interpreted
 - Some sites are off-limits
 - Managed by Native Hawaiians
- ? People of Kaua`i
 - Appreciate and support the benefits of the visitor industry
 - Give the gift of aloha that encourages guests to return and to stay longer

**Agriculture/
Aquaculture Vision**

- ? Keeps Kaua`i green and economically healthy
- ? Farmers are producing a wide range of crops, food, value-added products and forest products for local consumption and export
- ? Farmers are thriving and profitable, supported by high local demand and exports

- ? Farmers work directly with restaurants and the visitor industry
- ? Farmers work together in co-ops collaborating to control costs and market their products
- ? Corporate businesses
 - Volume exporters for niche markets
 - Work in cooperation with small independent producers
 - Financial strength provides for new crop research and extensive marketing
- ? Viable irrigation systems are maintained and enhanced
- ? Airport facilities have been improved to facilitate direct shipment to the mainland
- ? Interisland ferry service decreases transportation costs for local farmers
- ? Incentives are in place to help landowners maintain agricultural uses and keep lands as open space and vistas, free of development
- ? Farmers have increased business opportunities by creating linkages with the visitor industry
- ? Farmers grow crops and develop products at a level that is supported by local demand and that reduces Kaua`i reliance on imports

High Technology Vision

- ? All parts of the island are served by high speed communication
- ? High tech businesses, including information technology, biotechnology, life sciences and ocean technology, employ 3% of the workforce
- ? Kaua`i has kept abreast with technological infrastructure changes occurring throughout the world
- ? High technology manufacturing companies have been attracted to open offices on Kaua`i
- ? All industry clusters have incorporated high technology into their operations
- ? The Pacific Missile Range Facility (PMRF) is a major testing and evaluation facility that supports military and civilian projects. As the largest testing and evaluation centers in the world, it attracts high tech businesses to locate on Kaua`i. PMRF remains a federal installation, with substantial federal funding. Scientific and commercial research is a major part of activities. With a proactive program to hire current and returning residents, PMRF and its associated companies provide training and work in cooperation with schools and training providers.
- ? Digital media provides increasing employment opportunities. The development of this sector also helps to grow opportunities in film and television production on Kaua`i.

Energy Vision

- ? Electrical power companies provide essential public services while supporting the aspirations of all classes of members
- ? Renewable energy supplies a growing portion of energy needs
- ? Renewable energy operations and related businesses provide an increasing number of jobs for the local community

Airport Vision

- ? Lihue Airport is continually upgraded to support the desired level of economic development

Harbor Vision

- ? Nawiliwili Harbor and Port Allen are continually upgraded to accommodate the latest cargo shipping systems, cruise ships, and inter-island ferry services.
- ? Small boat harbors are upgraded and managed to accommodate resident fisherman, recreational boating, boat tours, and rentals for visitors

Prosperity and Opportunity

- ? **A** diverse economy leads to challenging work at a variety of skill levels, better paying jobs, and greater economic stability
- ? Everyone shares in Kaua`i's prosperity
- ? Residents are healthier, leading active lives, and living longer

- ? More effective programs in place to improve employment, housing, and educational opportunities for Kaua`i's less advantaged citizens
- ? Homeownership increases to from 48% to 65%
- ? Public schools benefit from a reinvented DOE
- ? Nonprofit health and social service agencies are valued and nurtured as community assets

4.0 ECONOMIC DEVELOPMENT APPROACH

This plan presents a two-pronged economic development strategy:

- ? Address the critical issues impacting economic development. These include structural and root problems that affect Kaua`i's economy.
- ? Proactively promote six emerging industry clusters

Critical Issues

The critical issues impacting economic development on Kaua`i are described in Section 5.0. Based on these critical issues, four economic development goals and corresponding objectives are presented in Section 6.0.

Industry Clusters

A discussion of industry clusters and a cluster-based approach to economic development are discussed in Section 7.0. Six specific clusters are described in Section 8.0. Included in this section are the challenges, opportunities, and priority projects to strengthen and grow each cluster.

One potential source of funding for priority and other projects is the U.S. Department of Commerce, Economic Development Administration (EDA). EDA requires that projects requesting EDA funding be listed in this plan. A summary of EDA's programs, priorities, and eligibility requirements is shown in **Appendix D**.

Guiding Principles

Three guiding principles of this plan are:

Economic Self-Sufficiency: To minimize imports from State, nation, and the world by substituting imports with locally produced goods and services, reducing intermediaries, and promoting local purchasing.

Economic Diversification: To strengthen selected industry clusters so that Kaua`i is less dependent on a single industry.

Expand Economic Opportunities for all: To promote jobs that pay living wages, provide training and skills to create and upgrade employment choices, and reduce poverty on the island. A definition of living wages is found in Section 5.1.

This plan recognizes that the visitor industry will remain a significant and vibrant component of Kauai's overall economy over the next ten years.

4.1 Infrastructure

This plan recognizes that public facilities and services are needed to support economic development over the next 10 years. **Kaua`i General Plan** describes in great depth the public services and infrastructure necessary to support projected resident and job growth on Kaua`i. ¹ Policies, implementing actions, and needed improvements are described in the General Plan and therefore are not repeated in this plan.

¹ County of Kaua`i, Planning Department, *Kaua`i General Plan*, November 2000, Chapters 4, 7, and 8.

Public facilities and services described in the General Plan include:

- ? Regional highways and roads
 - ? Bus transit
 - ? Bikeways
 - ? Water supply
 - ? Wastewater treatment
 - ? Drainage and flood control
 - ? Electrical power
 - ? Solid waste
 - ? Parks and recreation
 - ? Police and fire safety
 - ? Schools
 - ? Parks
 - ? Housing
 - ? Harbors
 - ? Airports
-

4.2 Economic Development Administration

The Economic Development Administration (EDA), U.S. Department of Commerce, funds economic development initiatives throughout the country. As described earlier, this plan serves as Kaua`i's Comprehensive Economic Development Strategy, the official document that EDA uses to initially screen projects for funding consideration. EDA program requirements is summarized in **Appendix C**.

Applicants seeking funding from the EDA must be listed in this plan to be considered for funding. A list of priority projects is included, by industry cluster, in **Appendix D**.

4.3 Visitor Industry

The visitor industry is the largest industry on Kaua`i and includes transportation, accommodations, catering, recreation, and services to visitors. The visitor industry workforce are employed in hotels, restaurants, airlines, car rental companies, airport operations, security, retail stores, entertainment, and many other businesses that provide services to travelers.

In a typical year, the visitor industry generates about one-third of the Kaua`i's real income.² One in every three jobs Statewide is generated by the visitor industry.³

Kaua`i hotels alone generate 14% of the island's employment.⁴

This plan recognizes that the visitor industry is a mature industry and is a critical component of Kaua`i's economic future. Statistics, however, show that:

? In the past five years, the number of jobs in the hotel industry has shrunk by 5%.⁵

² University of Hawai`i, Economic Research Organization, *Kaua`i Economic Outlook*, prepared for the County of Kaua`i, June 14, 2004.

³ Department of Labor & Industrial Relations, State of Hawai`i, *Career Directions in Travel & Tourism*, June 2004.

⁴ Department of Labor & Industrial Relations, State of Hawai`i, *Non-Agricultural Wage and Salary Jobs, County of Kaua`i*, available online at: <http://www.state.hi.us/dlir/rs/loihi>. Accessed 8-26-04.

⁵ U.S. Census Bureau, *County Business Patterns (CBP)*, 2001. This is the latest available jobs data for specific industries (4-6 Digit NAICS level).

- ? Based on Statewide projections, the visitor industry is expected to grow slowly compared to other sectors.⁶
- ? There are many part-time shift-work jobs and overall wages are lower compared to other targeted clusters.⁷
- ? Some industry leaders believe that Kaua`i's existing infrastructure and natural resources cannot support additional growth in this industry.

Visitor Industry Plans

There are current and proposed efforts to articulate visitor industry needs both statewide and locally.

At the State level, the Hawai`i Tourism Authority has developed a draft *Hawai`i State Tourism Plan (HSTP) 2005-2015*. A final plan is expected to be adopted in October 2004.

A Kaua`i County Visitor Industry Plan will be completed in 2005 and will cover the following nine strategic initiatives:

- ? Access to, from, and within Kaua`i
- ? Communications and outreach
- ? Hawaiian culture
- ? Marketing
- ? Natural resources

⁶ Hawai`i Department of Labor & Industrial Relations, Projected Growth for 2000-2010.

⁷ U.S. Bureau of Labor Statistics, average annual wages for the industry. Where County level wage data was not available, State or National figures were used to estimate County levels.

- ? Research and planning
- ? Safety and security
- ? Product development
- ? Workforce development

Specific recommendations and action steps for implementation will be included in the plan.

Visitor Industry Improvements

Leaders in the visitor industry on Kaua`i have identified needs that require immediate attention and action. These areas include:

- ? Improving the condition of State and County parks
- ? Addressing the issues of safety and security
- ? Improving directional signage
- ? Providing improved interpretive signage
- ? Creating more regional visitor/cultural centers around the island
- ? Conduct a study of cruise ship social, economic, and physical impacts, infrastructure improvements required, and costs
- ? Create an educational program, beginning in middle school, on the importance of the visitor industry to Kaua`i's economy and the State as a whole

Niche Products and Clusters

While this plan recognizes the pivotal role of the visitor industry in Kauai's economy, emphasis is placed on growing niche products or clusters within the visitor industry. These clusters include:

- ? Healthcare and wellness

- ? Food and agriculture
- ? Culture and arts
- ? Sports & Recreation
- ? High technology

5.0 Critical Economic Development Issues on Kaua`i

While this plan focuses on the challenges and opportunities of six emerging clusters, there are larger, structural issues that directly or indirectly impact economic development on Kaua`i. A strong economy is dependent upon finding solutions to these underlying problems.

Economy	?	Low unemployment rate
	?	Low household income
	?	Few jobs pay living wages
	?	Widespread underemployment
	?	Pockets of unemployment and poverty
	?	Anticipated worker shortage
Education	?	Few high school seniors plan for more schooling
	?	High number of employees without a high school education
	?	High number of teens, 16 to 19, not in school and not working
Housing	?	High cost of housing in relation to income
	?	Low rate of homeownership
	?	Limited supply of housing, especially at affordable rates
	?	Low vacancies

- ? High use of vacant units as “vacation” home and rentals
 - ? High number of households living in crowded conditions
 - ? Number of families who are homeless
- Coordination of Economic Development** ? Lack of island-wide collaboration and communication around economic development

Each issue or problem listed above is described in the section that follows.

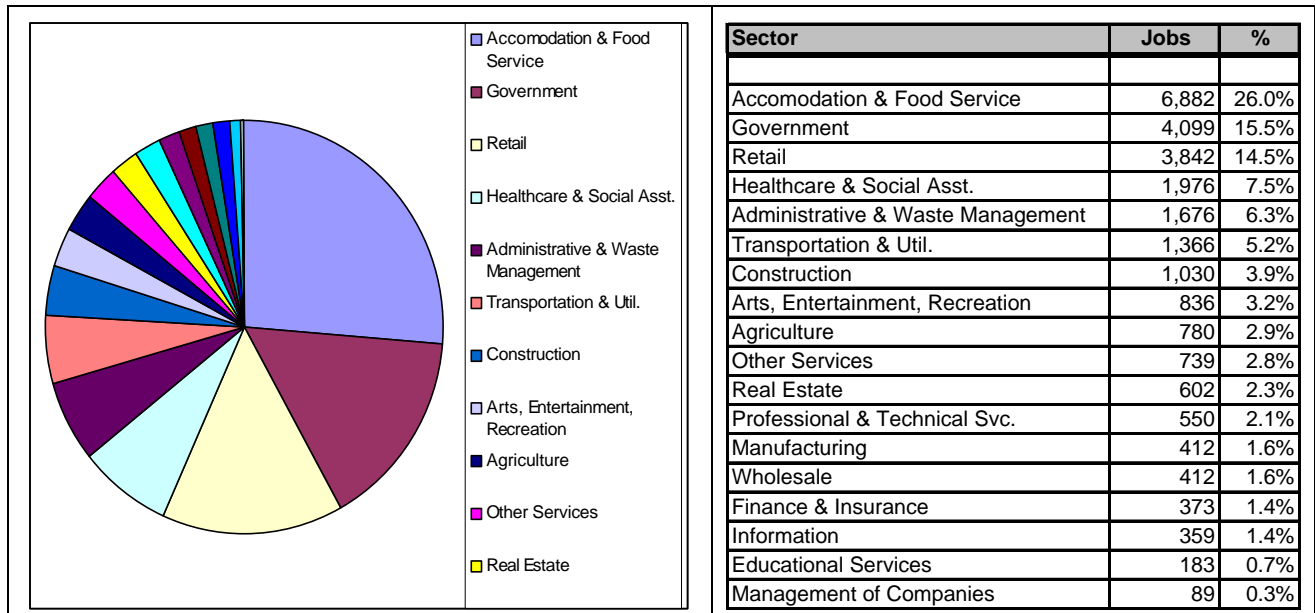
5.1 Economy

Economic Composition

The Kauaʻi economy supports a total of approximately 27,000 jobs including government and agricultural employment. Its major sectors of employment are Government, Retail Trade, Accommodations, Food Services, and Health Care. Like other rural counties of the State, Kauaʻi’s economy is dominated by small businesses: 87% of the County’s non-farm businesses have fewer than 20 employees, slightly more than the comparable Statewide figure of 85%.⁸

⁸ Department of Labor, State of Hawaiʻi, 2003.

Figure 5-1: Kaua`i Economic Composition in 2003



Low Unemployment Rate

As of July 2004, the unemployment rate on Kaua`i was 3.9%, higher than the State unemployment rate of 3.0%, but lower than the U.S. unemployment rate of 5.7%.⁹ A low unemployment rate indicates that the labor market is fairly "tight", with most able-bodied job-seekers employed in some fashion.

Low Household Income

In spite of low unemployment, household incomes on Kaua`i remain low. Of the 20,201 households on Kaua`i, 38% of households have incomes less than \$35,000.¹⁰ The standard used by many federal government programs to measure economic need is

⁹ Department of Labor, State of Hawaii, *Unemployment Rates-Not Seasonally Adjusted*, available online at: http://www.hiwi.org/admini/uploadedPublication/1019_URATE_current.pdf. Accessed 8-23-04.

¹⁰ U.S. Census Bureau, *Income Distribution in 1999 of Households and Families: 2000*, Available online at: <http://factfinder.census.gov>. Accessed 3-4-04.

185% of the poverty level or approximately \$39,553 for a family of four on Kaua`i. Households falling below that level qualify for some government assistance. Based on this standard, it is estimated that 36% of households on Kaua`i have incomes which qualify them as economically needy.¹¹

Few Living Wage Jobs

The best available definition of a living wage for Kaua`i is the “self sufficiency standard” which uses the actual costs of different household necessities in different locations to calculate the living wage. By this standard, the living wage for a family of four (2 adults, one preschooler and one school-age child) on Kaua`i is \$56,304 or about \$28,150 per parent per year.¹² Adjusted for inflation, and taking different family compositions into account, today the living wage is roughly \$30,000 per parent, or \$60,000 for a two-earner household of four.

By this measure, none of Kaua`i’s 10 largest occupations (by number of jobs) pay a living wage.¹³ Indeed, 65% of all jobs on Kaua`i pay less than \$30,000 per year and 54% pay less than \$25,000 per year.

¹¹ The Hawaii Outcomes Institute, *Healthy Hawai`i 2010*, Available online at: <http://www.healthyhawaii2010.org/Communities.aspx>. Accessed 3-4-04.

¹² Diana Pearce, Ph.D with Jennifer Brooks, prepared for the Hawaii State Commission on the Status of Women, *The Self-Sufficiency Standard for Hawaii*, April 2003.

¹³ Department of Labor and Industrial Relations, State of Hawai`i. Government agencies attempt to collect data that includes tips and bonuses. However, the full value of tips may not be captured.

Figure 5-2: Salaries of 10 Largest Occupations on Kaua`i

Occupation	Salary
Retail Salespersons	\$20,060
Waiters and Waitresses	\$25,970
Maids and Housekeeping Cleaners	\$24,310
Combined Food Prep. & Servers, incl. Fast Food	\$16,960
Cashiers	\$19,960
Cooks, Restaurant	\$24,970
Landscaping and Groundskeeping Workers	\$23,590
Janitors & Cleaners, excl. Maids & Housekeepers.	\$22,080
Office Clerks, General	\$25,440
Dining Room & Cafeteria Attendants	\$18,850

Widespread Underemployment

Additional evidence of “underemployment” is provided by data from local service providers. Job seekers received by Workforce Development “One-Stop-Centers” (providing job training and placement) in 2003 exceeded openings by more than 2:1. This suggests that while unemployment is low, even working people may be seeking jobs with better hours, pay, career paths, or benefits.

Pockets of Unemployment & Poverty

In spite of low County- and State-wide unemployment rates, unemployment and poverty continue to be high in many Kaua`i communities. Some areas like Anahola and Pakala had a double-digit unemployment rate in 2000, while the Statewide unemployment rate was near 6%. Several neighborhoods also had poverty rates that were well above the statewide rate.

Table 5-1: Unemployment & Poverty Rates

	State	Kaua`i	Anahola	Pakala	Koloa	Eleele	Kapaa
Unemployment	6.3%	5.3%	10.8%	10.4%	7.9%	7.5%	7.0%
Poverty Rate	10.7%	10.5%	14.2%	43.8%	17.8%	13.2%	15.7%

Anticipated Worker Shortage

The current low unemployment rate and high number of baby boomers who will be retiring within the next ten years raises concern about a potential worker shortage on Kaua`i. Over the next ten years, about 1,930 employees in the labor force, between the age of 55 and 59 years old at the time of the 2000 Census, will retire.¹⁴ Included in this number are over 440 State employees who will retire over the next 10 years.¹⁵

While there is limited data pointing to a potential worker shortage, anecdotal information shared by several industry experts and company managers points to shortages in service-related jobs in the cruise ship industry, banks, restaurants, construction, and hotels, as well as technical jobs in the high tech and health clusters.

5.2 Education

Another critical issue expressed by many employers is that many entry-level hires do not have basic skills in reading and math. In addition, there are many teens who do not have clear plans for their future while in school and once they depart from school.

¹⁴ U.S. Census Bureau, *Sex by Age by Employment Status for the Population 16 Years and Over*, available online at: <http://factfinder.census.gov>. Accessed 8-23-04.

¹⁵ Department of Human Resources, *Projection of Workforce Eligible for Retirement, State of Hawai`i, Executive Branch, County of Kaua`i*, July 20, 2004.

Low Student Achievement

Based on one measures of high school student performance, the Stanford Achievement Test, about one-third of all Kaua`i 10th graders are performing below average.¹⁶

Table 5.2: Percent of 10th Grade Students on Kaua`i Scoring Below Average on Stanford Achievement Test

Test	High School	% Scoring Below Average	
		Reading	Math
Stanford Achievement	State	36%	31%
	Kapa`a	33%	27%
	Kaua`i	35%	29%
	Waimea	42%	42%
		% Scoring Well Below Ave.	
Hawai`i Content & Performance Standards	State	16%	23%
	Kapa`a	11%	18%
	Kaua`i	20%	21%
	Waimea	16%	18%

Higher Education

A low proportion of Kaua`i’s graduating high school seniors plan to go on for higher education. Data from the State Department of Education indicates that only

¹⁶ Department of Education, “Schools to get second chance,” *The Honolulu Advertiser*, September 3, 2004, p. A6-A7.

39% of Kaua`i's seniors are planning for additional schooling, while Statewide the figure is 51%.¹⁷

High School Education About 11% of persons aged 25 and older have less than a high school education on Kaua`i. This percentage is higher than any other county in the State of Hawai`i.¹⁸

Table 5-3: Percentage of persons aged 25 and older with less than a high school education

County	%
Kaua`i	11.1
Honolulu	7.8
Hawai`i	7.4
Maui	9.4

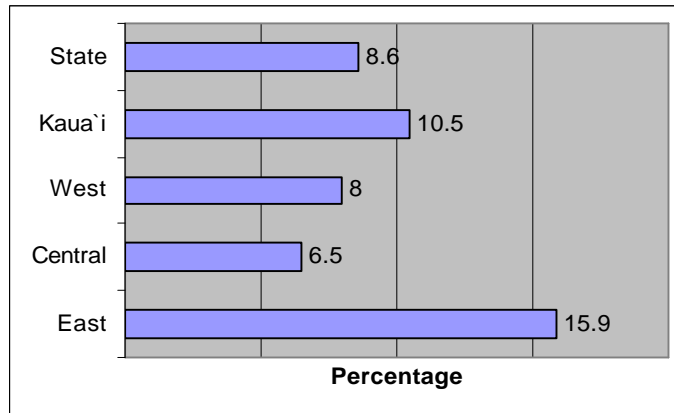
Teens Not in School, Not Working One out of ten teens on Kaua`i, between the ages of 16 to 19, are not in school and not working.¹⁹

¹⁷ Department of Education, *Senior Exit Plan Survey*, 2003.

¹⁸ The Hawaii Outcomes Institute, *Healthy Hawai`i 2010*, Available online at: <http://www.healthyhawaii2010.org/Communities.aspx>. Accessed 3-4-04.

¹⁹ Ibid.

Figure 5-3: Teens, age 16-19, not in school and not working by school complex



5.3 Housing

What is the definition of affordable housing? The State of Hawai`i and County of Kaua`i both currently use the definition of housing that can be purchased by households earning up to 140% of the median income.

For a household of two, earning 140% of the median income (\$63,070), with a 7% interest rate, an affordable home would be about \$209,900 in 2004 dollars.

For a household of four, earning 140% of the median income (78,820), with a 7% interest rate, an affordable home would be about \$272,200 in 2004 dollars.

Cost of Housing in Relation to Income

In July 2004, the median price of a single-family home on Kaua`i was \$528,000, a 40% increase over 2003.²⁰ The median price means that half of the homes sold

²⁰ "Kaua`i home prices lead state," *The Garden Island*, July 10, 2004, Phil Hayworth, p. 1 and 8.

above \$528,000 and the other half sold for below this amount. The price of a condominium was \$420,000, a 20% increase over 2003.²¹

Yet, the 2004 median income of households (family of four) on Kaua`i is about \$56,300. Given a conventional 30-year mortgage, 5% down payment, 30% loan to income ratio, \$250 tax and insurance, and 7% interest rate, this family of four can only afford to purchase a home for \$183,100.²²

As of August 2004, there are very few homes on the market under \$200,000. Of the 17 listings, 13 were listings in one leasehold condominium in Poipu with living areas of under 650 square feet.²³

The average 2003 monthly rent for a single-family dwelling unit was \$1,306, while the average monthly rent for a 2-bedroom unit was \$885.

The federal government uses a standard shelter-to-income ratio of 30% to determine affordability. Ratios higher than 30% indicate the household is paying more for shelter than the standard. More than 30% of households on Kaua`i pay over 30% of their income for shelter.²⁴

Low Rate of Home

Compared to the rest of the State, Kaua`i has a low

²¹ Ibid.

²² "Kukui`ula Employee Housing Affordable Sales Prices," County Housing Agency, dated 7/1/04.

²³ *Hawai`i Information Services*, available online at: <http://www.hawaiiinformation.com>. Accessed 8-23-04.

²⁴ SMS Research and Marketing Services, Inc., *Hawaii Housing Policy Study, 2003*, Table IV-A-7. Shelter-to-Income Ratios, August 23, 2003.

Ownership

percentage of households who are homeowners at 48%, compared to a Statewide average of 64%.²⁵

Limited Supply of Housing

Based on the *Hawaii Housing Policy Study, 2003*, there is currently a demand for 2,824 additional housing units on Kaua`i as follows²⁶:

Table 5-4: Housing Demand on Kaua`i by Tenancy

Preferred tenancy	Count	%
Own, single-family dwelling	1,691	60%
Own, multi-family dwelling	103	3%
Rent, single-family dwelling	857	30%
Rent, multi-family dwelling	173	6%
Total	2,824	

According to the *County of Kaua`i Consolidated Plan*, over the past two years, falling mortgage interest rates and the increased sales of new housing units to non-residents have contributed to an increase in both housing activity and prices. However, "some observers believe that the critical mass of second homes and affordability of second homes in Hawai`i will cause a

²⁵ SMS Research and Marketing Services, Inc., *Hawai`i Housing Policy Study, 2003*, Table II-16a. 2002 Hawai`i State Housing Inventory Summary, p. IIB-23, August 23, 2003.

²⁶ SMS Research and Marketing Services, Inc., *Hawaii Housing Policy Study, 2003*, Table IV-F-13. Housing Demand, County of Kauai, 2003, p. IVG-32, August 23, 2003.

long-range increase in the number of housing units not available to local residents."²⁷

Low Vacancies

In 2000, the homeowner vacancy rates were about 1.2%, compared to the State average of 1.6%. Rental vacancy rates were about 6% compared to the State rate of 8.2%.²⁸

"Vacation" Homes

The County's *Consolidated Plan* notes that Hawai`i is one of ten states with the highest percentage of housing stock classified as "vacant - for seasonal, recreational and occasional use." While 5.6% of the State's housing stock falls in this category, over 15% of Kaua`i's housing stock is vacant for seasonal, recreational, and occasional use.²⁹ This further decreases Kaua`i's housing inventory for resident use.

Crowded Housing Conditions

In 2003, 20% of households on Kaua`i were overcrowded or doubled-up, exceeding the State average of 18%.³⁰

Homeless Population

The unsheltered homeless are families or individuals who have a primary night-time residence that is a public or private place, such as beaches, parks, automobiles, and streets. It is estimated that in 2003,

²⁷ County of Kaua`i, Offices of Community Assistance, Kaua`i County Housing Agency, DRAFT *County of Kaua`i Consolidated Plan (for program year July 1, 2005 through June 30, 2010)*, August 6, 2004, p. 36.

²⁸ U.S. Census Bureau, *2000 Vacancy Rates*, American FactFinder, General Housing Characteristics, 2000.

²⁹ County of Kaua`i, Offices of Community Assistance, Kaua`i County Housing Agency, DRAFT *County of Kaua`i Consolidated Plan (for program year July 1, 2005 through June 30, 2010)*, August 6, 2004, p. 37-38.

³⁰ SMS Research and Marketing Services, Inc., *Hawaii Housing Policy Study, 2003*, Table IV-A-6. Household Composition and Crowding by County, 1992, 1997 and 2003, p. IVB-8, August 23, 2003.

there were 580 unduplicated unsheltered homeless persons on Kaua`i.³¹

The hidden homeless are households in which more than one family shares accommodations. It is estimated that there are 2,551 households that are the hidden homeless, which translates into 12,969 persons.

At-risk homeless are households in which members would become homeless in less than three months if they suddenly lost their primary source of income. It is estimated that there are 1,956 households that are at-risk, which translates into 6,100 persons.³²

5.4 Lack of Coordination

While there may be some limited coordination and collaboration within some clusters, there has been little community-wide collaboration on Kaua`i's economic future. This planning process showed the need for stronger economic development planning and implementation on Kaua`i.

³¹ Housing and Community Development Corporation of Hawaii, State of Hawaii, *Homeless Statistics*, available online at: <http://www.hcdch.hawaii.gov/homeless.html>. Accessed 3-26-04.

³² SMS Research and Marketing Services, Inc., *Hawaii Housing Policy Study, 2003*, Table VI-5. Hidden Homelessness and Risk of Homelessness, 1992 to 2003, p. VI-4, August 23, 2003.

6.0 ECONOMIC DEVELOPMENT GOALS & OBJECTIVES

The top five economic development goals and corresponding objectives are as follows:

1. **To assist new and existing businesses in targeted clusters create new jobs**
 - A. To provide access to business planning assistance, including market research
 - B. To assist with permitting, licensing, and regulatory issues
 - C. To provide entrepreneurial training
 - D. To facilitate access to start-up and expansion capital
 - E. To develop a business incubator facility

2. **To facilitate career planning for students in elementary school and up**
 - A. To expose youth to various career paths
 - B. To encourage/require middle and high school students to develop post-high school plans
 - C. To give youth "hands-on" experience in the workplace through internships, mentoring, and partnerships with prospective employers

3. **To expand and train the workforce to meet the needs of employers**

- A. To obtain data on the workforce needs of Kauaʻi's employers
 - B. To design and provide training to meet specialized needs
 - C. To seek new and untapped sources of employment to meet labor needs
4. **To promote affordable housing**
- A. To develop affordable single- and multi-family housing
 - B. To promote affordable rental housing and owner rehabilitation
 - C. To increase homeownership through self-help housing, first-time homebuyer loan programs, and homebuyer education and counseling
 - D. To fund an emergency shelter, transitional housing units, special needs housing, and supportive services
5. To improve the skill level and work readiness of students entering the work force
- A. Identify specific ways that families and community can get involved in public education
 - B. Ensure full parent and community participation in School Community Councils
 - C. Make changes to school curriculum to upgrade skill levels and teach citizenry

Lead Agencies

A lead entity or entities is assigned to each objective. In some cases, lead agencies have yet to be identified or there are multiple lead agencies. The role of KEDB and OED in the next phase of work is to identify and

gain commitments from lead agencies responsible for implementing objectives.

Action Plans

Action plans have not been developed and will require further collaboration between various lead agencies in the next phase of work.

Kaua`i Economic Development Plan

Goal 1

Goal	To assist new and existing businesses in targeted clusters create new jobs	
Objectives	<p>1.1 To provide access to business planning assistance, including market research services</p> <p>1.2 To assist with permitting, licensing, and regulatory issues</p> <p>1.3 To provide entrepreneurial training</p> <p>1.4 To facilitate access to start-up, micro-enterprise, and expansion capital funds</p>	<p style="text-align: center;">Lead</p> <p>Small Business Development Center</p> <p>Short-term: Mayor's Office Long-term: to be determined</p> <p>Kaua`i Chamber of Commerce, Kaua`i Community College, Rural Development Program DBEDT, High Tech. Dev. Corp.</p> <p>State of Hawai`i Department of Business, Economic Development, and Tourism</p>

	1.5 To develop a business incubator	Small Business Administration Private Venture Capital Agencies Office of Economic Development Kaua`i Economic Development Board
Action Steps	Action steps to be developed for all objectives	
Performance Measures	<p>Outputs:</p> <ul style="list-style-type: none"> ? Number of businesses receiving business planning assistance ? Number of businesses receiving assistance in the areas of permitting, regulations and licensing ? Number of businesses receiving entrepreneurial training ? Development of a business incubator ? Number of businesses receiving assistance in accessing venture capital/equity funds <p>Outcomes:</p>	

	? Number of new jobs created ? Number of living wage jobs created
Benchmarks	In 10 years, 3,200 new jobs in targeted clusters In 10 years, the percentage of jobs paying living wages increases from 40 to 55%

ED Goal 1

**Kaua`i Economic Development Plan
Goal 2**

Goal	To facilitate career planning for students in elementary school and up	
Objectives	<p>2.1 To expose youth to various career paths through career days, speakers bureau, etc.</p> <p>2.2 To encourage/require middle and high school students to develop post-high school plans</p> <p>2.3 To give youth "hands-on" experience in the workplace through internships, mentoring,</p>	<p style="text-align: center;">Lead</p> <p>Office of Economic Development Kaua`i Workforce Investment Board Department of Education Kaua`i Economic Development Board Kaua`i Community College Department of Education Kaua`i Economic Development</p>

	and partnerships with prospective employers	Board Kaua`i Workforce Investment Board Department of Education Kaua`i Community College
Action Steps	Action steps to be developed for all objectives	
Performance Measures	<p>Outputs:</p> <ul style="list-style-type: none"> ? Number of career days and career fairs ? Number of youth participating in internships and mentoring programs ? Number of graduating seniors with documented post high school plans ? Reduction in the number of teens, between 16-19 years, who are not in school and not working <p>Outcomes:</p> <ul style="list-style-type: none"> ? Increase in the number of high school seniors who continue education following graduation 	

Benchmarks	<p>In 10 years, the number of high school seniors who continue education following graduation increases from 39% to 51%.</p> <p>In 10 years, all graduating high school students will have a post high school plan in place.</p> <p>In 10 years, the percentage on teens between the ages of 16 and 19, not in school and not working, is reduced from 10.5% to 5%.</p> <p>(Ask Daniel Hamada to comment on these)</p>
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ED Goal 2

Kaua`i Economic Development Plan

Goal 3

<p>Goal</p>	<p>To expand and train the workforce to meet the needs of employers</p>	
<p>Objectives</p>	<p>3.1 To obtain data on the workforce needs of Kaua`i's employers</p> <p>3.2 To design and provide training to meet specialized needs</p> <p>3.3 To seek new and untapped sources of workers to meet labor needs</p>	<p style="text-align: center;">Lead</p> <p>Kaua`i Workforce Investment Board</p> <p>Kaua`i Community College WorkWise! Kaua`i Chamber of Commerce</p> <p>Kaua`i Workforce Investment Board WorkWise!</p>
<p>Action Steps</p>	<p>Action steps to be developed for all objectives</p>	

<p>Performance Measures</p>	<p>Outputs:</p> <ul style="list-style-type: none"> ? Number of adults accessing workforce education and training programs ? Number of youth and adults using WorkWise! ? Number of employers using WorkWise! ? Number of new training programs <p>Outcomes:</p> <ul style="list-style-type: none"> ? Maintain low unemployment rate ? Increase in living wage jobs
<p>Benchmarks</p>	<p>In 10 years, the unemployment rate is maintained at 3-5%</p> <p>In 10 years, the percentage of living wage jobs is increased from 40% to 55%</p>

ED Goal 3

Kaua`i Economic Development Plan

Goal 4

Goal	To promote affordable housing	
Objectives	<p>4.1 To develop affordable single- and multi-family housing</p> <p>4.2 To promote affordable rental housing and owner rehabilitation</p> <p>4.3 To increase homeownership through self-help housing, first-time homebuyer loan programs, and homebuyer education and counseling</p> <p>4.4 To fund an emergency shelter, increase transitional housing units, special needs housing, and fund supportive services</p>	<p style="text-align: center;">Lead</p> <p>For-profit & non-profit housing developers County housing agency</p> <p>County Housing Agency For-profit & non-profit housing developers</p> <p>County Housing Agency Non-profit housing organizations</p> <p>County Housing Agency Nonprofit housing developers Nonprofit social service providers</p>

<p>Action Steps</p>	<p>Action steps to be developed for all objectives.</p> <p>Specific strategies are articulated in the Draft <i>County of Kaua`i Consolidated Plan (for program year July 1, 2005 through June 30, 2010)</i>, Offices of Community Assistance, Kaua`i County Housing Agency, August 6, 2004.</p>	
<p>Performance Measures</p>	<p>Outputs:</p> <ul style="list-style-type: none"> ? Number of new affordable and market housing for purchase ? Number of new affordable rental housing ? Number of units rehabilitated by owners ? Number of first-time homebuyer loans awarded ? Number of homebuyers educated and counseled ? Development of a emergency homeless shelter ? Number of new transitional housing units developed ? Number of new beds for special needs housing ? Number of new individuals with special needs receiving supportive services <p>Outcomes:</p>	

	<p>? Increase in homeownership rate</p> <p>? Decrease in homelessness</p>
<p>Performance Measures</p>	<p>In 10 years, the homeownership rate will increase from 48% to 54%</p> <p>Affordable rental housing is developed at the rate of 28 units per year over the next five years</p> <p>Affordable single family housing is developed at the rate of 70 units per year over the next five years</p> <p>Other performance measures to be determined in cooperation with the County Housing Agency</p>

ED Goal 4

Kaua`i Economic Development Plan

Goal 5

Goal	To improve the skill level and work readiness of students entering the work force	
Objectives	<p>5.1 To identify specific ways that families and community can get involved in public education</p> <p>5.2 To ensure full parent and community participation in School Community Councils</p> <p>5.3 Make changes to school curriculum to upgrade skill levels and teach citizenry</p>	<p style="text-align: center;">Lead</p> <p>Department of Education Kaua`i Planning & Action Alliance</p> <p>Every public school</p> <p>Department of Education School Community Councils</p>
Action Steps	<p>Action steps to be developed for all objectives.</p> <p>Act 51, the Reinvesting Education Act for the Children of Hawai`i (REACH), will provide guidance in the implementation of these objectives.</p>	

Performance Measures	<p>Outputs:</p> <ul style="list-style-type: none"> ? Number of Parent Teacher Student Association members ? Number of School Community Council members ? Number of parents and community members volunteering in schools <p>Outcomes:</p> <ul style="list-style-type: none"> ? Increase in standardized test scores
Performance Measures	Performance measures to be determined in cooperation with the Department of Education

ED Goal 5

7.0 CLUSTER-BASED ECONOMIC DEVELOPMENT

Once economic values, needs and goals have been defined to guide economic development, the operative question becomes, “How do we get there?” Cluster-based economic development focuses on investing in those industries and industry clusters that build the competitive advantages of a region. Such investments foster growth in targeted clusters, creating well-paying jobs that build skills, improve the quality of life, and produce other desirable outcomes.

What is an Industry Cluster?

An “industry cluster” is a group of related industries that share infrastructure, labor, customers, suppliers, or services. These industries often face common opportunities, challenges and threats.

Industries in a cluster can be related *vertically* or *horizontally*. In a vertical cluster, industries are part of the same *supply chain*: e.g., fertilizer companies, farms, wholesale grocers, supermarkets and restaurants are all part of a vertically linked “food cluster.” In a horizontal cluster, industries offer similar products or services, e.g., a healthcare cluster includes physician’s offices, dentists’ offices, clinics, skilled nursing facilities, and practitioners of non-traditional medicine.

Why Focus on Clusters? Cluster theory holds that investing in the right group of related industries allows areas or regions to shape their economy to serve its needs and goals. Investing in clusters (versus individual industries or firms) is critical for the following reasons:

- Strong regional economies are built on the strength of strong clusters. An area's economy gains competitive advantages over other regions by strengthening connections between industries in a cluster.
- The economy prospers if the private sector, government, and others provide appropriate supports (or remove barriers) for the continued growth of the right industry clusters. By providing things like workforce training, access to capital, marketing support and other assistance, clusters are strengthened and sustains its competitive advantages.
- Focusing on clusters helps those with an interest in promoting economic development (government, economic development agencies, etc.) make more strategic investments in economic development by:
 - focusing resources on a manageable set of industries or clusters;

- o identifying the interventions that will have the greatest impact on the economy;
- o building inter-industry relationships that matter to business growth.

Cluster Analysis Methodology

Cluster analysis requires focusing on those groups of industries that are good investments for the economy. In order to determine which clusters were “good investments,” data on 200 Kauaʻi industries and industry groups at the 4-digit and 5-digit NAICS levels³³ were analyzed. Based on this data, each industry was then rated on four criteria:

Four Primary Criteria

- ? *Historical Growth:* Historical growth in industry employment from 1998 to 2001 (the latest data available at the time of the study) was examined using the Census Bureau’s County Business Patterns data. An industry was labeled “high growth” if average annual growth during this period was greater than 3.0% – significantly higher than the Kauaʻi-wide growth rate of 2.0% during these same years.
- *Projected Growth:* Projected employment growth using data from the Hawaiʻi State Dept. of Labor & Industrial Relations and

33 NAICS is the North American Industrial Classification System – defining each industry with a unique code, according to which government agencies collect data on jobs, wages, etc.

the U.S. Bureau of Labor Statistics was examined. Both had developed industry projections through the year 2010. An industry was considered to have a “strong outlook” if it had an average annual projected job growth of 1.8% or more. This figure was significantly higher than Kaua`i’s overall projected growth of 1.1% – 1.6%.³⁴

- *Competitive Advantage:* An industry was considered to exhibit signs of local strength (or “competitive advantage”) if its share of employment on Kaua`i was 125% or more of its share of employment Statewide³⁵ and it had more than 30 employees.³⁶ These industries have significantly larger employment than would be expected given their share of Statewide employment.
- *Wage Levels:* An industry was considered “high wage” if the average annual wage in the industry exceeded \$30,000 – the approximate Kaua`i living wage for a 2-parent, 2-child household.³⁷

34 The 1.1% projection is based on the low-estimate from Kaua`i’s General Plan. The 1.8% figure is from the Bureau of Labor Statistics, County Employment by Industry 2010.

35 This measure is called a “Location Quotient” and is used by economic development planners to identify areas of economic strength or competitive advantage. By comparing shares of Kaua`i employment to shares of statewide employment we get a sense of whether an industry is particularly strong on Kaua`i. For instance, if Recreational Services were 5% of statewide employment but 15% of Kaua`i employment, we could deduce that Kaua`i may have a competitive advantage in the industry because it was larger than we would expect given statewide employment patterns in the industry.

36 Not fair to judge based 30 jobs

37 Based on D. Pearce, The Self Sufficiency Standard for Hawai`i, April, 2003 which found that in 2002, the Kaua`i self-sufficiency wage for a 2-parent 2-child household was \$28,152. Adjusted for inflation, the figure is approximately \$30,000 today.

Any industry that scored well on 2 or more of the above criteria was considered to be a potentially “good investment” for the local economy. If the data was limited for any industry, interviews with key informants, industry experts, trade publications, and other information was gathered to render judgments on the above criteria.

Secondary Criteria

The additional criteria listed below was considered in identifying target clusters. Because these criteria could not be quantified, they were given slightly less weight than the quantitative measures utilized above.

- *Economic Diversification:* Reflected in many past planning documents is the longstanding goal of diversifying Kaua`i’s economy. It was considered an added benefit if an industry added to the economic diversity of Kaua`i (e.g, it fell outside the traditional mainstays of visitors and government).
- *Export Potential:* A local economy grows if outside dollars are brought into the region through export activity. Industries with export activity or potential were given preference over those without export potential.
- *Life-Cycle Risk:* Some industries, (e.g., High Tech, Renewable Energy), are in an

early stage of development representing high economic risks, but potentially high rewards. Others, (e.g., Healthcare), are more stable and less risky, but also offer more modest growth potential. Clusters were selected with an eye toward creating a balanced mix of risky and stable investments.

- *Inter-Cluster Linkages:* Some clusters had obvious potential for inter-cluster linkages, where the growth of one cluster might benefit another. For instance, the growth of the ethanol industry within the Renewable Energy cluster would also promote farm production in the Agriculture & Food cluster.
- *Non-Economic Goals & Priorities:* Resident priorities like preserving the natural environment, respecting history and culture, maintaining Kaua`i's rural character, and other non-economic goals are effected by different industries in different ways. These priorities and goals were also considered in selecting target industry clusters.

Kaua`i's Target Clusters Based on this analysis, there were 60 industries (out of an original 200) that were "good investments" for the Kaua`i economy. These 60

industries were concentrated in six clusters,³⁸ which were defined based on horizontal and vertical linkages between them:

- Food & Agriculture
- Health & Wellness
- Sports & Recreation
- Arts & Culture
- High Technology
- Renewable Energy

Focus Group Meetings Having selected six target industry clusters, focus groups were organized and invitations made to companies, government officials, trade associations, industry experts and others to share their insights about the cluster's challenges and opportunities. Participants were also asked to identify programs, projects or action steps which would address challenges and capitalize on opportunities for firms in the cluster.

Individual Meetings One-on-one meetings and phone interviews were held to supplement feedback from focus group meetings. Findings of both focus group and individual meetings are summarized in *Section 8*.

³⁸ Other attractive or important industries which were not included on this list of target clusters are discussed in a separate section, below.

8.0 KAUA`I'S TARGET CLUSTERS

This section describes six target clusters that are considered “good investments” for the Kaua`i economy.

- Food & Agriculture
- Health & Wellness
- Sports & Recreation
- Arts & Culture
- High Technology
- Renewable Energy

Each sub-section includes a description of the cluster, challenges and opportunities, priority projects that would strengthen the cluster, and performance measures.

8.1 Food & Agriculture

The Food & Agriculture Cluster is comprised of Kaua`i industries involved in the production, processing, distribution, and wholesale and retail sale of food and food products. In 2004 the cluster supported an estimated 5,277 jobs or about 24% of total Kaua`i non-government employment.³⁹ More than half of the cluster’s jobs are in the Food Services Industry.

³⁹ See data appendices for details on estimates and methodology.

Table 8-1: Industries on Kaua`i Comprising Food and Agriculture Cluster

NAICS	Industry	Jobs	% Tot.
111000	Agricultural Production	620	2.8%
444200	Farm & Garden Supply	66	0.3%
311000	Food Manufacturing	128	0.6%
422400	Agricultural Wholesale	220	1.0%
445000	Grocery & Food Stores	1,034	4.7%
722000	Food Services & Restaurants	3,208	14.6%
Cluster Total		5,277	24.0%

Industries in the cluster exhibited moderate to strong projected growth⁴⁰ and potential for increased competitive advantage through integration of the supply chain.⁴¹ Several industries in the cluster also supported living wages: Grain Farming, Aquaculture, and Other (unclassified) Diversified Agriculture each paid just above \$30,000 a year on average. In addition to being “good investments” from an economic perspective, industries in the cluster also contributed to non-economic goals like preserving open space and maintaining the rural character of Kaua`i.⁴²

40 Growth data for Agricultural Production and Food Manufacturing were skewed by the recent loss of Sugar Industry jobs which affected growth figures. Projections were adjusted to account for anticipated growth of diversified agriculture and leveling of job losses in Sugar. See data appendices for details.

41 At the time of this study, a Kaua`i Food Industry Forum had formed to get food producers, distributors, and retailers to work more closely together and add value to each other’s industries.

42 The substitution of locally-produced goods for goods that are currently shipped-in. The importance of import substitution, open space, and the rural character of Kaua`i were all identified in past planning documents including the Kaua`i County General Plan.

Focus group participants identified several challenges and opportunities within the cluster, including, but not limited to the following:⁴³

Challenges

- ? Affordable housing for farmers and farm workers is lacking. Participants noted that farmers cannot currently live and work on agricultural lands due to zoning restrictions.
- There is an absence of good market information for producers (farmers) and consumers (restaurants, grocers) hampering growth on both ends of the supply chain. One restaurant owner reported that he wanted to buy produce from local growers, but had difficulty finding out who was growing what, leading him to import the items instead.
- Physical infrastructure for agriculture, particularly irrigation systems and roads are in need of repair and maintenance.
- A treatment, packing, and handling facility is needed for export products (both crop products and value-added agricultural goods).
- Business training is needed for many small farmers.

43 The lists represent only a partial listing of challenges and opportunities. A full record of focus group comments is provided in the appendices.

- The high cost of freight is a barrier to exporting many food products.
- Long term leases (> 5 years) are needed by growers if they are to continue in farming.
- The industry faces a shortage of farmers and farm workers. There was a sense that local universities are not graduating as many students in agriculture as they once did, due to a lack of student interest.
- Investment in new crop and new food product research and development is needed, particularly from the University of Hawaii.
- Competing use of Kaua`i's harbors for cruise ships and agricultural shipments may pose a barrier to exports.
- Current laws restrict sub-division of agricultural land, making it difficult to lease appropriate acreage to small farmers.

Opportunities

- ? More than half of all produce is shipped in to Hawai`i, creating opportunities for import substitution. These opportunities are concentrated in select crops, seasonal produce, and specialty items.

- Export potential also exists: agricultural exports increased 23% from 1997 to 2001, ranking Hawai`i 7th among 50 states in export growth. Seed crops and agricultural research are emerging as promising exports.
- Food retailers (restaurants, grocers, markets) are under pressure to specialize and to offer organic products, quality branded produce, and exotic varieties.
- Kaua`i has good agronomics for many crops – year-round growing season, good soils, climate, etc.
- Agricultural lands are available to small farmers in diversified agriculture for the first time in many years.
- Innovative production/distribution models are available to learn from, e.g., the Mondragon cooperative system in Spain, KTA's Mountain Apple Brand on the Big Island, and Alluvion Nurseries on O`ahu.
- Energy crops create opportunities for linkage between Food & Agriculture and Renewable Energy clusters, e.g., biomass, ethanol and sugar production.

Priority Projects

The priority projects listed below were identified via voting by focus group participants.

- Form a Food Cluster Working Group to coordinate ongoing efforts of stakeholders within the Agriculture & Food Cluster.
- Re-establish a treatment, handling, and packing facility for exports including produce and value-added products.
- Conduct market studies (including data on worldwide demand) and distribute to growers.
- Produce a local farm/crop directory and distribute to buyers and retailers (including local restaurants and markets).
- Create an entity to coordinate marketing and distribution in *collaboration* with growers, following the model being used by KTA, Alluvion, Kaua`i Food Bank, and others.
- Build a certified, commercial community kitchen for food product development, testing and production by local farmers and new entrants to the food industry.
- Build a permanent “deluxe farmers’ market” with retail space for Kaua`i grown agricultural and value-added products.
- Establish a slaughter facility for the Kaua`i livestock industry.

Other Projects

- Amend current land use ordinance to allow for farm dwellings and address the housing issue for farmers.
- ? Establish a “Made in Kaua`i” brand similar to KTA’s Mountain Apple Brand, and provide market assistance under the label.
- Establish business training and technical assistance programs for farmers, or enhance existing programs to reach more small producers.
- Increase new product research and development in agriculture from the University of Hawai`i.
- Build affordable housing (subsidized development, financing, or rent) for farmers and farm workers.
- Upgrade irrigation systems and roads critical to agricultural production.
- Hold food industry events to promote Kaua`i agriculture and food products.
- Create a web-based portal for value-added and agricultural products from Kaua`i.
- Improve recruitment and mentoring for agriculture students and others entering the field.

- Coordinate the use of the harbor for agricultural and visitor use so that neither is negatively affected by the other. Construct a staging area at the harbor for agricultural exports.
- Plan and implement other projects strengthening the Food & Agriculture Cluster as identified in the County General Plan, State Plans, Workforce Development Plans, State Department of Agriculture plans, or other plans.
- ? Obtain community development “quotas” from the Western Fisheries Management Council for fisheries resources allocated to the State of Hawai`i.

Performance Measures Given historical and projected growth among industries in the Agriculture & Food cluster, a reasonable goal is to increase jobs from the present level of approximately 5,277 jobs to 6,488 jobs over 10 years. This represents an increase of 1,211 jobs or just over 120 jobs per year, and an annualized growth rate of 2.1%.

Along with job growth, additional measures of success for the cluster include the following:

- Reductions of imported produce and food products from other islands, the U.S. mainland, and other countries.

- Increases in Kaua`i exports of agricultural and food products to other islands, the U.S. mainland, and other countries.⁴⁴
- Increases in average annual wages in the cluster that exceed the rate of inflation, moving it toward the living wage for Kaua`i.
- Coordination of efforts to grow the cluster, track progress, and measure results by a Cluster Working Group.

8.2 Health & Wellness

The Health & Wellness Cluster includes a range of health services providers and practitioners, traditional and non-traditional. The cluster includes hospitals, and doctors' and dentists' offices as well as chiropractors, nutritionists, nursing homes, mental health services providers, naturopaths, physical therapists, home healthcare providers and others.

⁴⁴ Tracking progress toward this goal would require collection of County-specific data on the quantity and/or value of imports and exports.

Table 8-2: Industries on Kaua`i Comprising Health & Wellness Sector

NAICS	Industry	Jobs	% Tot.
44610	Health & Personal Care Stores	189	0.9%
62110	Offices of Physicians	469	2.1%
62121	Offices of Dentists	154	0.7%
62130	Offices of Other Health Practitioners	52	0.2%
62140	Outpatient Care Centers	43	0.2%
62161	Home Health Care Services	92	0.4%
62200	Hospitals	324	1.5%
62142	Outpatient Substance Abuse	NA	NA
62151	Medical & Diagnostic Laboratories	NA	NA
62310	Nursing Care Facilities	NA	NA
NA	Other Health & Wellness (estimated)	682	3.1%
Total Jobs in Cluster		2,005	9.1%

Key strengths of the Health & Wellness cluster include strong projected growth and the fact that most industries in the cluster pay well above the Kaua`i living wage. For example, Outpatient Care Centers pay an average wage of \$44,750; Offices of Physicians, \$56,832; Healthcare & Personal Care Stores, \$30,437; and Other Healthcare Practitioners (including non-traditional) \$30,029. Industries in healthcare and wellness also draw upon a common pool of skilled labor requiring similar types of knowledge and training.

Focus group participants identified several challenges and opportunities within the cluster, including the following:

Challenges

- ? The cluster faces a shortage of skilled healthcare workers including nurses, Certified Nurses' Assistants, social workers, para-professional healthcare workers, medical receptionists, physical

therapists, ultrasound technicians, and others.

- The lack of affordable housing is a barrier to attracting and retaining a quality workforce.
- Healthcare education and training are not adequate. Remedial education is needed at KCC for many students and there are not enough instructors for technical healthcare programs.
- Graduating high school students are unaware of the opportunities and career paths in the healthcare and wellness cluster, and therefore enter other fields.
- More educational options are needed for those who wish to enter or transition into healthcare from other fields. Scholarships and modular courses are needed for those who are working and pursuing their education.
- The wide variety of health and wellness firms are not organized as a cohesive cluster, and more connections must be built between traditional and non-traditional medicine.
- The “ice” problem is adding to demand for health services, mental health services, and substance abuse treatment, straining the resources available within the cluster.

Opportunities

- Lack of beds for long-term care.
- Building confidence and pride in existing healthcare institutions on island.
- ? Low overall unemployment combined with a worker shortage in healthcare presents an opportunity to reach into economically distressed areas and recruit the unemployed from these areas into living wage healthcare jobs with career paths.
- Some models exist for attracting high school students to careers in healthcare, e.g., the Team Tech has been a success for the High Tech industry.
- Short-term/part-time residents and retirees are a potential untapped resource. They could serve as instructors, executives, and expert advisers to the health and wellness cluster.
- Opportunities in health and wellness tourism exist: there are an estimated 30 million people in Asia seeking treatment. Blending Western medicine with Native Hawaiian, Asian, and holistic healing will produce an attractive mix of services for health and wellness visitors.
- New supports for health tourism exist: HTA is funding an effort to develop a Statewide wellness tourism plan, incubator

services, a "Hawaii Wellness" label, and group marketing.

- Wilcox Health is computerizing all medical records to electronic form, constructing 5 new operating rooms, and developing a new imaging center to be opened in 2005.

Priority Projects

- ? Form Health & Wellness cluster working group, in collaboration with the Hawai`i Wellness Tourism Association.
- Plan and construct a community-based Health & Wellness Retreat Center in a spectacular setting, that integrates traditional and non-traditional healing arts. The retreat center would serve residents and a worldwide audience.
- Provide scholarships for medical training covering a combination of tuition and lost wages for those who must forgo employment to pursue education.
- Create new or expanded programs for middle schools, high schools and KCC to attract students to the healthcare professions, e.g., a summer health academy, academy for future nurses, or health occupation club for teens.
- Create new training program options at KCC, e.g., apprenticeship models, modular courses vs. semester courses, and other non-traditional course structures for those

who work while pursuing education in healthcare.

Other Projects

- ? Apply the “Team Tech” model of mentoring/shadowing to health and wellness cluster jobs.
- Develop a website to link job openings on Kaua`i with former Kaua`i residents who want to return home.
- Create inter-industry career path maps.
- Expand Kaua`i’s Home Health Services industry by providing appropriate training and technical assistance to new enterprises in this industry.
- Expand health and wellness career day at schools.
- Ensure that Kaua`i has access to the best appropriate telemedicine facilities and equipment.
- Build long-term care facilities.
- Plan and implement other projects strengthening the cluster and identified in the County General Plan, State Plans, Workforce Development Plans, the DBEDT’s Wellness Tourism Plan, or other plans.

Performance Measures Job openings are expected to continue to outnumber qualified job seekers in the Health & Wellness cluster in the future, with steady annualized jobs growth of 2.8% expected over 10 years. At this rate of growth, we would expect jobs to grow from their current level of 1,860 to 2,550 in 10 years – an overall increase of 590 jobs or 60 jobs per year.

Along with job creation, key measures of success for the Health & Wellness Cluster include the following:

- Increase in the number and/or proportion of cluster jobs filled by local residents (versus imported labor).
- Average annual wages among industries in the cluster that continue to exceed the Kaua`i living wage.
- Active coordination of efforts to grow the cluster, track progress, and measure results by a Cluster Working Group.

8.3 Sports & Recreation

The Sports & Recreation Cluster includes a range of industries providing recreational services and attractions to residents and visitors. Included within this cluster are industries such as golf courses, recreational instruction (surfing, windsurfing, parasailing, etc.), campsites,

recreational sports centers, equipment rentals, and supportive services like tour operators, travel agencies, and others.

Table 8-3: Industries on Kaua`i Comprising Sports & Recreation Cluster

NAICS	Industry	Jobs	% Tot.
713000	Amusement & Recreation	447	2.0%
713910	Golf Courses & Country Clubs	NA	NA
713940	Fitness & Recreational Sports Ctrs.	NA	NA
721210	Recreational, Vacation Camps	NA	NA
451110	Sporting Goods Stores	83	0.4%
487900	Scenic & Sightseeing Transportation	175	0.8%
532292	Recreational Goods Rental	NA	NA
561510	Travel Agencies	57	0.3%
561520	Tour Operators	86	0.4%
611620	Sports & Recreation Instruction	NA	NA
Total Jobs in Cluster		847	3.8%

Sports and Recreational services is an area where Kaua`i is strong relative to other counties. Nearly every industry (with the exception of travel agencies) had employment that was more than 125% of what we would expect given Statewide levels of employment. Sports & Recreational services industries also showed strong historical and projected annualized growth (4.3% and 4.1% respectively) that outpaced growth rates of Kaua`i's other industries.

Growth in the cluster appears to be driven by recreational services. Other supportive industries like travel agencies, tour operators, and rental agencies have lower growth rates and would benefit from aligning themselves more

closely with Sports & Recreational services through cross marketing, package deals, and information sharing.

Focus group participants identified several challenges and opportunities within the cluster, including the following:

Challenges

- ? Kaua`i's parks require improvements and better maintenance.
- Small and large boat harbors must be improved to accommodate visitor and other uses (Norwegian Cruise Lines and Super Ferry).
- The high cost of liability insurance for recreational businesses is an impediment to cluster growth.
- Kaua`i may be at or approaching its carrying capacity. The public and cluster companies need more information on this issue.
- Kaua`i's roads are inadequate to meet the needs of residents and visitors.
- Operators do not understand the land use permitting processes and the process is lengthy.

- Airport improvements may be needed to increase visitor traffic to Sports & Recreation companies. Specific safety improvements include a fuel facility, additional gates, lengthened runways, increased capacity and improved operations. Expansion of the airport's capacity should be balanced with concerns over carrying capacity and invasive species.
- Shoreline areas (unencumbered State lands) are being over-used for commercial purposes.

Opportunities

- ? Kaua`i's natural beauty and recreational areas are unparalleled (e.g., fresh water lakes). Some areas hold untapped potential controlled recreational and educational use (e.g., Wailua reservoir)
- Some segments of the cluster have begun to organize, e.g., the Kaua`i Agricultural Tour Operators Association, Kaua`i division of the Activity Owners Association.
- Sports & Recreational activities for young adults (18-24) are an under-served area of need.

Priority Projects

- ? Complete Ha`ena State Park Master Plan and implement improvements.

- Implement Kokeʻe State Park Master Plan.
- Create a Sports & Recreation Cluster association or working group (e.g., work with Kauaʻi Agricultural Tour Operators Association).
- Develop the Wailua Reservoir Education Center, combining fishing and camping areas, a native plant reforestation project, and an environmental education center located at the Wailua Reservoir.

Other Projects

- ? Construct and maintain a bike path from Nawiliwili to Anahola.
- Update the County Park Master Plan.
- Build and maintain athletic facilities such as gymnasiums, soccer fields, and other arenas to ensure that local residents and visiting sports events have adequate venues to compete in.
- Establish themed visitor centers in each community providing information on recreational activities and services.
- Address safety issues (esp. ocean recreation) with monitoring, community education, additional lifeguards and equipment.

- Improve roads to reduce travel time to sporting activities, recreational areas, and businesses.
- Begin charging dedicated user fees at parks to support maintenance and improvements.
- Conduct a study of the carrying capacity of Kaua`i with implications for the Sports & Recreation Cluster and other industries.
- Plan and implement other projects strengthening the cluster and identified in the County General Plan, State Plans, Workforce Development Plans, or other plans.

Performance Measures Jobs growth in the Sports & Recreation Cluster is projected to be healthy at 4.1% per year. At this rate of growth, it is expected that total jobs in the cluster will increase from the current level of approximately 1,020 to 1,520 over 10 years – an increase of about 50 jobs per year. Most of this growth should take place in recreational services industries (equipment rentals, adventure tours, etc.), but should also drive jobs growth in supportive industries like travel agencies, activities coordinators, and tour operators.

Other key measures of success for the cluster include the following:

- Increases in average wages in the cluster's industries that exceed inflation, moving the average cluster wage toward living wage levels.
- Improved amenities at recreational sites.
- Active coordination of efforts to grow the cluster, track progress, and measure results by a Cluster Working Group.

8.4 Arts & Culture

The Arts & Culture Cluster includes a variety of industries engaged in artistic and cultural activities. Music, film, writing, publishing, graphic design, hula halau, crafts, photography and performing arts as well as educational and cultural attractions like museums, historical sites, botanical gardens, theatres, and cultural education programs are all included. The cluster is comprised of both for-profit and non-profit entities engaged in these activities. The cluster supported 644 jobs in 2002, or 3.1% of total non-government employment on Kaua`i.

Table 8-4: Industries on Kaua`i Comprising Arts & Culture Cluster

NAICS	Industry	Jobs	% Tot.
451100	Hobby, Musical Instrument Store	110	0.5%
451200	Book, Periodical & Music Stores	68	0.3%
453920	Art Dealers	82	0.4%
711000	Performing Arts, Spectator Sports	76	0.3%
712110	Museums, Historical Sites	243	1.1%
712130	Zoos & Botanical Gardens	140	0.6%
711110	Theater Companies & Dinner Theaters	NA	NA
711120	Dance Companies	NA	NA
711130	Musical Groups & Artists	NA	NA
711500	Indep. Artists, Writers & Performers	NA	NA
512100	Motion Picture & Video Industries	NA	NA
NA	Others Arts & Culture (estimated)	59	0.3%
Total Jobs in Cluster		779	3.5%

Firms and industries in the cluster are unified by their reliance on a mix of cultural, natural and historic assets unique to Kaua`i including a similar workforce of creative individuals. Industries in the cluster also draw upon a common customer base: visitors and residents with an interest in arts and culture. Those cluster companies that draw visitor traffic depend on shared physical infrastructure to maintain attendance. Finally, these industries all play an important role in defining the cultural character of Kaua`i.

Industries in the cluster showed strong historical growth and strong projected growth. Performing Arts, Zoos, and Botanical Gardens all experienced annual growth of more than 20% between 1998 and 2002. Several of Kaua`i's industries in this cluster are also strong compared to the rest of the State. Museums & Historical Sites, for instance, supported twice the

number of jobs expected given Statewide employment patterns.

Focus group participants identified several challenges and opportunities within the cluster, including the following:

Challenges

- ? Cultural resources are being degraded by unauthorized or inappropriate use (e.g., weddings held on cultural sites) and new residential or commercial development.
- Road improvements are needed to maintain visitor access to cultural and historic attractions.
- Better intra-cluster communication is needed.
- There is a lack of adequate/equitable access to capital for firms in the cluster.
- A 2002 Tourism Study found Kaua`i residents were more strongly opposed to “more tourism activity” than residents of any island.
- Many firms in the cluster are nonprofit organizations facing the unique challenges of that sector including: combining grants and admission income to achieve sustainability, and paying GET on fee income.

- Expensive to film on Kaua`i and as a result Kaua`i is considered a boutique location.
- Due to high occupancy, hotel rooms are not available for visiting film crews.
- The industry cluster is fractionalized.

Opportunities

- ? Kaua`i has many unique cultural assets including a voyaging canoe, Hawaiian Studies Program, Ni`ihau shells, and cultural and historic sites.
- Cultural tourism is a niche with promising demand and customer characteristics. Cultural and heritage tourists tend to stay longer, spend more, and treat the destination with greater respect than other tourists.
- Cruise ships are bringing new customers for arts and culture products, services and attractions.
- Marketing to foreign groups and different audiences can increase sales and attendance.
- There is proven demand for agri-tourism from Kaua`i's botanical gardens, the Hamakua Coast, and the Dole Plantation (900,000 visitors).

- The State as a whole recognizes the need to invest in Hawai`i's arts and culture-based industries. DBEDT has established an Arts, Culture & Entertainment Division which is developing an "Economic Plan for the Creative Economy" to guide arts and culture-based economic development.
- New business opportunities in digital media, animation and game production are emerging.

Priority Projects

- ? Create an Arts & Culture working group to improve communication and coordination within cluster.
- ? Provide marketing assistance programs targeting arts and culture enterprises with particular attention to marketing overseas to visitors and customers.
- Establish specialized technical assistance programs for nonprofit organizations engaged in arts and culture enterprises which benefit the local economy.
- Develop the Kaua`i Center for the Arts, Education and Technology.
- Create an access to capital program or special assistance fund for arts and culture enterprises and projects.

- Acquire land for and establish a permanent fair grounds for cultural festivals on Kaua`i.
- Establish and provide support to the Ni`ihau Shell Lei Cooperative including technical assistance, capital, and eventually a production facility.

Other Projects

- ? Adapt and use Kaua`i's Voyaging Canoe for cultural education excursions for visitors and residents.
- Acquire and maintain a mobile, high-quality, tent-structure for large cultural festivals.
- Establish community-based, experiential and cultural learning centers on Kaua`i (e.g., Project Faith)
- Acquire, rehabilitate, adapt and re-use existing historic facilities (e.g., Haraguchi Rice Mill) for new commercial purposes.
- Create a consolidated directory of art and culture businesses, programs and attractions.
- Create a consolidated calendar of arts and cultural events on Kaua`i and distribute to residents and visitors.

- Establish improved rules to guide the use of natural, cultural, recreational, and historical resources and for preservation of open space.
- Develop interpretive trails and walking tours in communities across Kaua`i, highlighting historic and cultural sites, with appropriate Native Hawaiian place names, interpretive signage and protocols.
- Establish a program to teach Hawaiian language, protocol, place names, etc. to workers in Kaua`i's visitor industry.
- Plan and implement other projects strengthening the cluster as identified in the County General Plan, State Plans, Workforce Development Plans, DBEDT's Economic Plan for the Creative Economy, or other plans.
- Create additional legislative incentives in the form of tax breaks to attract the film industry.
- Provide additional funding and support for the film industry on Kaua`i.
- Create educational programs encouraging cultural and environmental sensitivity for visitors and residents.

Performance Measures Jobs in the Arts & Culture Cluster are expected to grow rapidly over the next 10 years at about 4.7% annually. At this rate, a reasonable target is to increase jobs from their current level of 644 to 1,099 over 10 years, an increase of about 45 jobs per year, and a total increase of 455 jobs.

Along with job growth, other important measures of cluster success include:

- Increases in average wages in the cluster's industries that exceed inflation, moving the average cluster wage toward living wage levels.
- Increases in visitor satisfaction with the cultural, natural, and historical experiences on Kaua`i.
- Increases in the number of visitors who travel to Kaua`i because of its cultural, natural, and historic attractions.
- Active coordination of efforts to grow the cluster, track progress, and measure results by a Cluster Working Group.

8.5 High Technology

The High Technology Cluster includes firms in information technology, life sciences, ocean

sciences, digital media, and related service industries. Kauaʻi firms in the cluster supported an estimated 406 jobs in 2002, comprising just under 2.0% of total non-government employment.

Table 8-5: Industries on Kauaʻi Comprising High Technology Cluster⁴⁵

NAICS	Industry	Jobs	% Tot.
513320	Wireless Telecomm. Carriers	272	1.2%
541500	Computer Systems Design & Related	17	0.1%
541900	Othr Professional, Scientific, Tech.	55	0.2%
514210	Data Processing Services	12	0.1%
514191	On-Line Information Services	NA	NA
511210	Software Publishers	NA	NA
325410	Medicinals, Botanicals, Pharma	NA	NA
339112	Surgical & Medical Instruments	NA	NA
541710	Commercial Physical & Bio Research	NA	NA
NA	Other High Tech (estimated)	50	0.2%
Total Jobs in Cluster		406	1.8%

The industries within the cluster are diverse. Rather than being grouped together due to horizontal or vertical linkages, these industries were grouped because they were all in an early stage of development on Kauaʻi and therefore share many needs and challenges. For instance, biotechnology, information technology, and research companies all would benefit from access to venture capital, assistance with start-up or expansion, and investment in research and development.

Because Kauaʻi had only a few firms in many of these industries, Kauaʻi-specific data on

45 "NA" is used where an industry had too few firms to register in data collected by the U.S. Census Bureau County Business Patterns (CBP) survey. Estimated figures in the "Other" category represent conservative estimates of total jobs in industries where CBP data was unavailable and are based on interviews.

historical and projected job growth was often unavailable. Indeed, only 4 High Technology industries (all within the Information Technology (IT) group) were large enough to register in government-collected data on Kaua`i's economy. Still, data on Kaua`i's IT segment showed that it had high levels of employment relative to other counties and had strong historical and projected growth. Evidence collected through interviews, trade publications, and global industry research pointed to high growth potential in other cluster industries as well and average wages were well above the Kaua`i living wage.

Focus group participants identified several challenges and opportunities within the cluster, including the following:

Challenges

- ? There is a lack of affordable housing and communities with amenities to attract and/or retain a skilled workforce for high tech industries.
- There is a lack of physical infrastructure to support growth, e.g., more commercial incubator space, water in the Waimea/Kekaha area, and electricity for PMRF-related firms.
- Agricultural biotechnology faces some opposition – support from the Legislature and community education is critical.

- Dependence on federal funds is a risk factor: Kauaʻi needs to plan for sustainability beyond federal funding.
- The cluster faces a worker shortage: technology jobs are being filled by part-time residents who are often transient and difficult to retain.
- Many states (and nations) are competing for growth of their high tech industries including biotechnology and information technology. Successful regions have mostly relied on a university presence to fuel growth.

Opportunities

- ? Biotechnology on Kauaʻi is small, but growing, with lot of potential for expansion. At present, the industry is dominated by seed corn, and aquacultural and agricultural research.
- There is robust hiring/job creation projected by high tech employers including PMRF, the County Information Technology Department, and others.
- Some natural advantages of Kauaʻi strengthen high tech, e.g., strategic location in the Pacific, large open air seed acreage, year round growing season, strong intellectual property laws as part of the U.S.

- Some promising models of company-education partnership exist that help address the cluster's workforce challenge (e.g., Maui Community College Biotech Curriculum from Pioneer Seed; Kaua`i Community College Teacher Training Course by Envisioneering).
- Retirees and part-time residents may be an untapped source of expertise for high tech companies, and the educational institutions who train tech workers.
- Global market and industry trends in biotechnology make it an attractive investment. U.S. biotech revenues are projected to grow by 15% to 20% annually for 5 years. DBEDT projects that Hawaii's biotechnology industry will employ 6,700 people and generate \$3.1 billion in revenues by 2010.
- The cluster has some well-established local support programs such as Hi-BEAM, technology business incubators, Pacific Biotech Support Services, and an increasing number of venture capital funds and angel investors.

Priority Projects

- ? Develop affordable housing for technology workers, live-work space for technology entrepreneurs, and/or temporary housing for visiting scholars/technology experts.

- Form a High Tech Cluster working group to identify shared needs and opportunities, and craft coordinated solutions.
- Create business-education partnerships between high tech companies and Kauaʻi Community College. KCC would supply facilities, equipment, and partial funding, and share curricula with other community colleges. High Tech companies would recruit instructors (including retirees) and develop curricula.
- Create business-education partnerships between high tech companies and K-12 schools to strengthen Math & Science curricula. High tech companies should provide training to K-12 teachers.
- Develop the Poʻipu Ocean Science and Visitor Center as a source of information and research of marine science technology. The center would teach residents and visitors the importance of preserving Kauaʻi's ocean and marine resources.
- Advocate for more legislative support and provide community education on high tech issues, particularly for agricultural biotech.

Other Projects

- ? Hold technology fairs to showcase products and services of high tech companies.

- Establish IT internships, even with non-IT companies that use technology like hotels.
- Assess the feasibility of and (assuming feasibility) construct a water treatment facility for Waimea/Kekaha.
- Partner with Kaua`i Community College to promote distance learning to build a bridge to higher education.
- Conduct a market analysis of the unmet demand for commercial office space on the West side of Kaua`i. Assuming unmet demand exists, increase available space on West side (e.g., for PMRF-related businesses).
- Establish technology-related, community-based visitor centers in each region of Kaua`i, geared toward the education of residents and visitors alike, e.g., an ocean sciences and technology center in Po`ipu.
- Construct a film center/digital media center and production facility.
- Develop a business incubator and accelerator for home-based and small tech businesses with video conferencing capabilities, photocopying equipment, etc.).

- Plan and implement other projects strengthening the cluster as identified in the County General Plan, State Plans, Workforce Development Plans, or other plans.

Performance Measures Short-term job growth in the High Tech Cluster appears robust with many firms reporting that they plan to hire. Long-term hiring is less certain. A modest goal, given historical and projected growth, is to increase jobs in the cluster from the present level of approximately 406 jobs to 601 jobs in 10 years. This represents an overall increase of approximately 200 jobs at a rate of 20 jobs per year, and an annualized job growth rate of 5.0%.

Along with job growth, additional measures of success for the cluster include:

- Average annual wages within the cluster that continue to exceed the Kaua`i living wage.
- Increases in the proportion of cluster jobs filled by local residents (versus imported labor).
- New partnerships between educational institutions and cluster companies working to assure that education and training meets the needs of the cluster and its workers.
- Active coordination of efforts to grow the cluster, track progress, and measure results by a Cluster Working Group.

8.6 Renewable Energy

The Renewable Energy cluster includes a variety of industries that generate, distribute, and build technology for renewable energy. Types of renewable energy represented in the cluster include biomass, geothermal, hydro-electric, hydrogen fuel cells, ocean thermal, wave energy, photovoltaic, and wind energy.

Many of the technologies for renewable energy are still under development and therefore renewable energy industries are still in an embryonic stage. Indeed, the federal government does not have separate industrial classification codes for renewable energy industries. Rather, data on these industries are lumped together under headings like “Other electric power generation” (NAICS 221119), “Research & Development in physical, engineering & life sciences” (NAICS 541710), or “Electrical equipment manufacturing” (NAICS 335310).

There is little data available to analyze the cluster or its potential on Kaua`i. However, interviews with Kaua`i’s industry leaders, and research on global market and industry trends suggests that the cluster may be an attractive investment. Based on interviews and other information, a conservative estimate on the current employment in the cluster is about 50.

Because jobs in the cluster tend to be related to research, skilled manufacturing, or engineering, wages are well above the living wage for Kauaʻi.

Focus group participants identified several challenges and opportunities within the cluster, including the following:

Challenges

- ? Though federal funds exist for research, development, testing, etc., Kauaʻi companies lack staff capacity for proposal writing for renewable energy projects.
- There is no coordinating entity for different industries in the cluster, and therefore few opportunities for collaboration arise.
- There is a perception among businesses and utilities that the up-front investment cost of renewable energy technology is too high to justify its development. Methods of determining project costs and benefits may need to change before these companies will be considered attractive to investors.
- Landowner/resident opposition to certain kinds of renewable energy generation (e.g., wind, hydro) makes siting difficult.
- There is no local manufacturing of the technology required for many renewable

energy industries (e.g., photovoltaic cells). Shipping adds to cost of installation.

- Hawai`i Island's Natural Energy Laboratories of Hawai`i with its vacant land, deep water accessibility, and geothermal access may be better positioned to be the center for a renewable energy cluster in Hawai`i.

Opportunities

- ? Volatile oil prices, concerns over energy security, and growing interest among utilities, developers, and government are all likely to increase demand for renewable energy technology and services.
- Public education efforts are ongoing and awareness is growing of the need to invest in renewable energy technology, generation and distribution.
- Locally, Hawai`i's "2020 mandate" (that 20% of Hawai`i's energy supply must be from alternative sources by the year 2020) will drive demand.
- Hawai`i is a 'natural laboratory' for alternative energy with an ability to tap nearly all sources of renewable energy (wind, hydro, solar, geothermal, ocean, etc.).
- The State of Hawai`i has a track record of winning federal funds for energy and

technology programs, more than \$1.5 million annually for the last several years.

- Export potential exists: DBEDT has pursued renewable energy exchanges with the People’s Republic of China and has explored exporting Hawai`i’s renewable energy expertise to other parts of Asia.
- Funding is available for renewable energy projects, e.g., from the USDA, the National Renewable Energy Laboratory, the Small Business Innovation Research program, and other sources.
- Biomass and ethanol offer Kaua`i opportunities for cross-industry benefits between alternative energy producers and agricultural producers.

Priority Projects

- ? Conduct a study of past efforts on Kaua`i, best practices from around the country/world, and future needs/market opportunities in renewable energy.
- Create a renewable energy working group to coordinate efforts to promote the cluster, identify opportunities for collaboration, etc.
- Develop a “renewable energy park” to showcase new renewable energy technologies, and commercial and residential installation/use.

- Plan and staff an office/entity to support renewable energy demonstrations (a “renewable energy business accelerator”) to: identify/select demonstration projects (e.g., via RFP); assist in proposal development; assist in project siting, policy advocacy; collect info, evaluate, disseminate results.
- Plan, construct, and maintain a Kaua`i ethanol plant.

Other Projects

- ? Plan, construct and maintain a Kaua`i biomass facility
- Plan, construct, and maintain a Kaua`i H-Power plant
- Provide business support and technical assistance for renewable energy spin-off businesses such as those utilizing waste to energy by-products.
- Other projects strengthening the cluster and identified in the County General Plan, State Plans, Workforce Development Plans, the State Integrated Resource Plan, or other plans.

Performance Measures Because the cluster’s employment is minimal at this point, job targets are difficult to project. A new ethanol plant alone would create about 22

new jobs upon opening. An H-Power or biomass facility might produce similar employment effects. Research and development, new household renewable energy services, and other spin-off firms would create additional jobs. A conservative growth target for the cluster might be 100 new jobs over the next 10 years, or 10 jobs per year.

Along with job growth, key measures of success for the cluster include:

- Average annual wages among industries in the cluster that continue to exceed the Kaua`i living wage.
- Active coordination of efforts to grow the cluster, track progress, and measure results by a Cluster Working Group.

8.7 Other Promising Clusters

Based on the industry analysis described above, two additional clusters were identified as good investments for Kaua`i. Both *Construction & Building Trades* and *Real Estate & Related Services* had a combination of strong growth characteristics (at least for the short-term) and high wages.

However, these clusters were not included in the list of target clusters for the following reasons.

In the case of *Construction & Building Trades*, though many industries offered living-wage jobs, they also tended to be highly cyclical and had limited export potential.

In the case of *Real Estate & Related Services*, industries had some export potential (in the form of time-share and vacation home sales), but they, too, were cyclical. Furthermore, the time-share and vacation-home sales which are driving current growth in Kauaʻi's real estate services ran counter to other non-economic priorities such as maintaining affordable housing for residents, and preserving agricultural land.

Still, the data indicate that these are two additional areas where proper investment could create well-paying, skill-building jobs for Kauaʻi residents. Projects that strengthen these clusters should therefore be considered and supported, particularly when they (a) address the County's need for stable, long-term well paying jobs, and (b) when consistent with the goals and priorities articulated in this and other County plans.

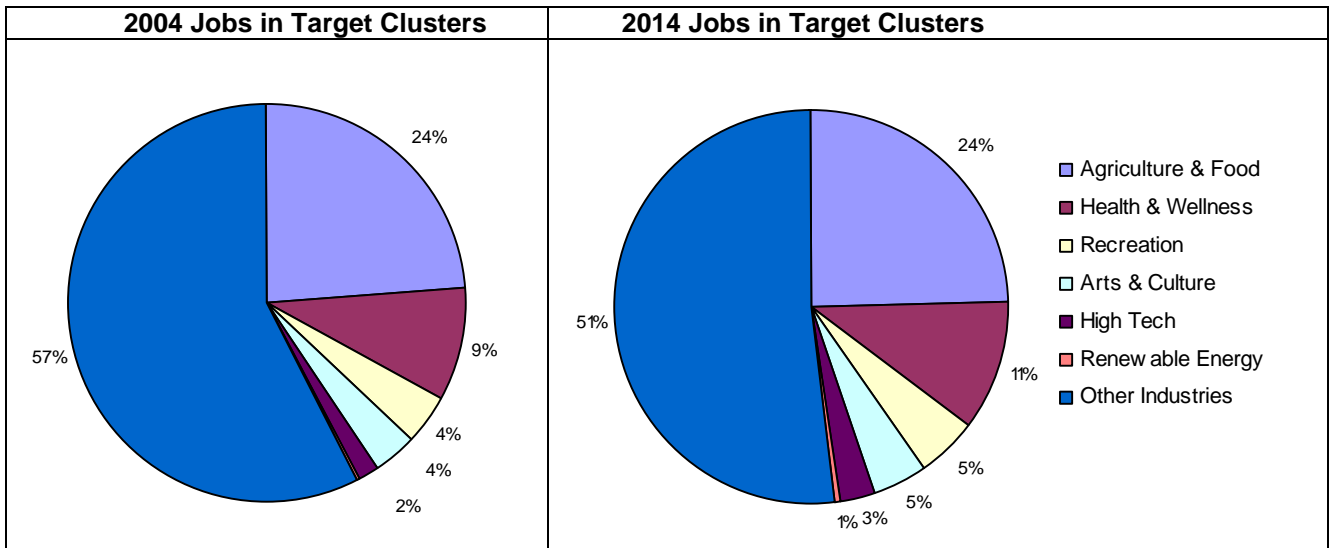
8.8 Overall Performance Measures

The total net job creation goal between all six target industry clusters is 3,200 jobs over 10 years or 320 jobs per year. Employment growth in target clusters is projected to significantly

outpace the economy-wide growth rate. All other non-cluster industries are expected to produce a net jobs gain of only 1,000 new jobs over 10 years. By 2014, employment in target clusters will have increased from 42% to 48% of Kauaʻi's total non-Agricultural jobs, significantly diversifying Kauaʻi's economic base.

Table 8-6: Current and Projected Employment in Target Clusters

Target Cluster	2004	% Tot.	2014	% Tot.	Job Gain
Agriculture & Food	5,277	24.0%	6,488	24.7%	1,211
Health & Wellness	2,005	9.1%	2,790	10.6%	785
Recreation	847	3.8%	1,296	4.9%	449
Arts & Culture	779	3.5%	1,213	4.6%	434
High Tech	406	1.8%	727	2.8%	321
Renewable Energy	50	0.2%	150	0.6%	100
Grant Totals	9,364	42.3%	12,664	48.1%	3,200



9.0 PLAN IMPLEMENTATION

To successfully implement this plan, several critical pieces are needed:

- ? Lead agency or agencies to manage overall implementation
- ? A broad-based advisory group comprised of business, government, and community representatives to provide guidance to lead agencies
- ? Identification of organizations to be responsible for the implementation of:
 - 18 objectives
 - Six cluster strategies
- ? Funds to organize and facilitate clusters, determine priorities, develop action plans, and implement next steps
- ? Development of action plans that clarify next steps, timelines, and roles
- ? Annual evaluation of performance measures
- ? Continuous communications between organizations that have a role in this plan, within each cluster, and with the community at large

Lead Agency(ies)

It is recommended that the County of Kaua`i Office of Economic Development (OED) and Kaua`i Economic Development Board (KEDB) partner to oversee the implementation of this plan. Both agencies have missions that support this role.

OED is the lead County government agency responsible for economic development on Kaua`i. Its mission is to “work in partnership with the community to create economic opportunities towards the development of a healthy, stable and balanced economy for the residents of the County of Kaua`i.”

KEDB is a 501(c)(3) non-profit organization with 54 member organizations representing various businesses on Kaua`i. The mission of KEDB is to “provide visionary leadership in the creation, development and support of economic activity in the County of Kaua`i.”

Kaua`i Economic Plan Advisory Group

A broad-based group of knowledgeable individuals representing diverse interests is needed to periodically advise the two lead organizations described above.

It is recommended that the Kaua`i Economic Plan Advisory Group (KEPAG) is formed and meets periodically to monitor progress, provide insights into problems and opportunities, and to give feedback in the implementation of the plan.

It is recommended that members of the current 30-member Comprehensive Economic Development Strategy (CEDS) Committee be asked to continue to serve in this advisory capacity. A Chair and Vice Chair would be elected to help set overall direction and conduct meetings.

The lead agencies, KEDB and OED, would be responsible for convening the group, developing agendas, providing materials to members prior to meetings, and facilitating and documenting meetings.

Lead Implementing Organizations

While OED and KEDB will be responsible for the overall management of the plan, other agencies will assist with plan implementation. In most cases, lead implementing agencies have been identified. However, in cases where it is unclear or undetermined, it will be OED and KEDB's role to clarify who will be the lead agency in charge of implementation and to gain that agency's commitment to take on the role.

Priority Goals and Objectives
Lead Organizations Responsible for Implementation

Objective	Brief Description	Lead Organization(s)
1.1	Business Planning and Market Research	Small Business Development Center
1.2	Permitting, licensing, and Regulatory assistance	Short-term: Mayor's Office Long-term: to be determined
1.3	Entrepreneurial Training	Kaua`i Chamber of Commerce Kaua`i Community College Rural Development Program DBEDT, High Tech. Dev. Corp.
1.4	Access to or create venture capital/equity fund	State DBEDT Small Business Development Administration Private capital venture companies
1.5	Business incubator	Office of Economic Development Kaua`i Economic Development Board
2.1	Expose youth to various career paths	Office of Economic Development Kaua`i Workforce Investment Board Department of Education Kaua`i Economic Development Board Kaua`i Community College

2.2	Post high school plans	Department of Education
2.3	Give youth "hands-on" work experience	Kaua`i Economic Development Board Kaua`i Workforce Investment Board Department of Education Kaua`i Community College
3.1	Data on workforce needs	Kaua`i Workforce Investment Board
3.2	Training to meet needs	Kaua`i Community College WorkWise! Kaua`i Chamber of Commerce
3.3	New sources of workers	Kaua`i Workforce Investment Board WorkWise!
4.1 – 4.4	Affordable Housing	County Housing Agency
5.1	Family and community involvement	Dept. of Education Kaua`i Planning & Action Alliance
5.2	Parent and community participation in School Community Councils	Every public school
5.3	Changes to curriculum to upgrade skill levels	Department of Education School Community Councils

Priority Clusters
Potential Lead Organizations

Food & Agriculture	Garden Island Resource Conservation & Development Farm Bureau Food Industry Forum
Healthcare & Wellness	Office of Economic Development Kaua`i Visitors Bureau
Sports & Recreation	Kaua`i Visitors Bureau
Arts & Culture	Office of Economic Development
High Technology	Kaua`i Economic Development Board
Renewable Energy	Office of Economic Development Kaua`i Island Utility Cooperative

Funding

There are many different organizations, both public and private, that will be responsible for implementing parts of this plan. All of these organizations have access to different sources of funding. The success of this plan will be dependent upon the willingness and ability of all responsible organizations to seek funds to implement portions of the plan.

It is recommended that funds be secured in the 4th quarter of 2004 to organize and facilitate the development of six industry clusters. The purpose of the funding would be to gather participants within each industry to further prioritize projects and develop three-year action plans for implementation.

Action Plans

Action Plans to carry out Priority Objectives and Cluster Priorities are needed. It is recommended that action plans are prepared in 2005 through collaborative processes.

“Unless you translate big thoughts into concrete steps for action, they’re pointless.”

Larry Bossidy

Former CEO of Honeywell

The purpose of the action plans is to clarify priority projects, sequential action steps to implement priority projects, realistic timelines, responsible agencies and individuals, resources needed to complete the project, and performance measures.

A summary of best practices for cluster organizations are included in **Appendix E**.

Performance Measures

Performance measures have been identified for each Priority Objective and Industry Cluster. Each organization responsible for carrying out a Priority Objective or Industry Priority, should report on progress it is making on an annual basis.

Communication

Continuous communications and dialogue is needed to successfully implement this plan.

- ? Once action plans are completed, all organizations that have a role in this plan should receive a copy of actions plans to understand the “big picture” and be given the opportunity to comment.
- ? The Kaua`i Economic Development Advisory Group (KEDAG) meetings will also promote communications among industry leaders and the community. Members will be encouraged to report back to the organizations they represent and voice concerns at meetings.
- ? Representatives from all businesses within each cluster should have the opportunity to participate to prioritize needs, develop action plans, and help implement the action plan. Internal methods of

communication could include newsletters, email updates, meetings, and conferences.

With the above components in place, we can begin to shape Kaua`i's economy in alignment with our values and vision. A stronger and diverse economy will benefit future generations and create opportunities for all.