

Japanese Investment in Hawaii: Past and Future

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Part 1: Japanese Investment in Hawai`i (1985-1996)

1.1 Volume of Investment

The volume of Japanese direct investments in Hawaii surged during the late 1980s. This corresponds to the rapid expansion of Japanese overseas investment in general with the sharp rise of the yen value vis-a-vis the U.S. dollar after the 1985 Plaza Accord. Between 1985 and 1995, Japanese invested no less than \$12 billion in Hawaii compared to \$850 million in the preceding 10 years. The highest single year of Japanese investment in Hawaii was in 1989 when net investment reached nearly \$5 billion. Since 1989 annual investment volumes have fallen sharply. In the past few years, Japanese investors have begun divesting some of their assets in Hawaii so that the cumulative total of investments is less today than it was during the early 1990s (See Chart 1.0).

1.2 The Cause of the Investment Surge

The single most conspicuous event that explains the timing of the surge in Japanese investment abroad and in Hawaii was the 1985 Plaza Accord which resulted in a major realignment of international currency exchange rates, particularly in the sharp appreciation of the Japanese yen vis-a-vis the U.S. dollar. Dollar denominated assets suddenly became cheaper and more attractive to Japanese investors. Hawaii was particularly attractive to Japanese investors in part because of its geographic proximity to Japan, its popularity as a Japanese travel destination, and because Japanese "like Hawaii".

During this period, the Japanese economy entered the so-called "bubble economy" stage. Induced by the sharp appreciation of the yen, Japan massively increased its investment abroad, particularly in Asian countries, including China. Japanese investment in Asian countries concentrated in the manufacturing sector, while in Hawaii, it naturally concentrated in the visitor industry where Hawaii has the greatest comparative advantage.

Part 2: Impact of Japanese Investment on Hawaii

2.1 Investment-Driven Economic Boom

Massive Japanese investment in Hawaii resulted in a business boom in the late 1980s. These investments concentrated mainly in real estate and resort properties and produced significant impacts on Hawaii, including some undesirable ones. The number of hotel rooms in Hawaii grew from 60,000 in 1985 to a high of over 73,000 in 1992; most of the increase was in upscale Neighbor Island resort properties. One source estimated that Japanese owned two-thirds of all upscale rooms in Hawaii by the end of the 1980s. The ensuing rise in vacancy in upscale properties on the Neighbor Islands in the early 1990s clearly indicated over-investment in hotel/resort properties.

Development of golf courses more than doubled the capacity of that industry and tripled its export value to the state to an estimated \$300 million per annum.

2.2 Local Resident Reactions

Some investments made during this investment rush were highly speculative and created serious embarrassment to long term Japanese investors. In one extreme case, one Japanese investor purchased over 100 residential properties in Honolulu alone. In a state where housing prices are among the highest and home ownership rates are among the lowest in the country, this sudden surge in foreign investments in residential real estate made homeownership during the late 1980s even less affordable, causing negative reactions among locals. In some cases the residential properties acquired by Japanese investors were left vacant much of the year and subsequently fell into disrepair, upsetting the owners of neighboring properties.

Japanese investments in golf courses raised green fees in the late 1980s and reduced playing opportunities to local golfers; golf courses were also regarded by many local residents as harmful to the environment due to their intensive use of pesticides and fertilizers. In the long run, the increase in the number of golf courses in the 1990s have

actually increased playing opportunities for local residents, who also enjoy preferential (kamaaina) green fees.

None-the-less, because land ownership is concentrated among relatively few owners in Hawaii, unlike elsewhere in the U.S., nonresident investments in Hawaii land benefit relatively few people directly. Not surprisingly, anything that affects land ownership, control, and land use is likely to be highly controversial. A popular Japanese television series, *Soko ga Shiritai*, even aired a program in Japan (and Hawaii) which heavily criticized Japanese real estate investments in Hawaii because of their negative social impacts on local residents.

Part 3: Ending the "Bubble"

3.1 Decline of Japanese Investments in Hawaii

As Japan's economic bubble burst in the early 1990s, the flow of Japanese investment to Hawaii fell sharply. Some Japanese investors have been selling off their assets in recent years at prices significantly below those they paid. In addition, those investors who purchased their assets in the late 1980s and sold them between 1994 and 1996 also suffered currency exchange rate losses due to the sharp appreciation of the yen in the mid-1990s.

3.2 Some Japanese Investments Were Successful

Not all Japanese investments in Hawaii were unsuccessful. A November, 1996 survey conducted by the Japan-Hawaii Economic Council of 116 Japanese businesses found that slightly more than half of the 40 respondents indicated that their investments in Hawaii were "successful"; another 40 percent did not regard their investments as "successful" but were still operating. Successful businesses indicated that (a) doing a

careful pre-study, (b) obtaining a good local advisor, and (c) finding the right location were the main reasons for their success.

3.3 Information Requirements

When asked to indicate the sources of information for their pre-studies, they responded that in Japan their "main banks" were the leading source of information. In Hawaii, the main sources of information--in the order cited-- were (a) public accounting firms, (b) Bank of Hawaii, (c) First Hawaiian Bank, (d) Central Pacific Bank, (e) Hawaii Visitors and Convention Bureau, and (f) the State Government.

When asked what specific information was most important to the investors. The main responses were (a) Hawaii's tax system, (b) Hawaii's laws, (c) business customs in Hawaii, and (d) how to start a business in Hawaii.

When asked for the reasons why their investments were unsuccessful, the most frequently cited responses were that they did not anticipate the burst of the economic bubble in Japan and the ensuing economic recession; another response was that they "could not find good local advisors".

3.4 New Investment Opportunities in Hotel/Resort Properties

The substantial fall in the prices of hotel and resort properties in recent years presents attractive investment opportunities for potential investors who are interested in buying these properties primarily as operating rather than speculative assets in the next decade. All the forecasts we have reviewed anticipate continued growth of tourist travel to Hawaii, especially on the Neighbor Islands in the coming decades. With direct flights now possible from Japan to Kona (Big Island), and with plans to extend airport runways on Maui and Kauai, Japanese travel to the Neighbor Islands can be expected to increase. Right now may be an opportune time to reinvest in Hawaii hotel and resort properties on a more solid financial basis. However, the Japanese economy needs to break out of its current economic deflation, and the government needs to initiate meaningful and transparent

steps to resolve its banking crisis before we can expect to see significant flows of Japanese investments to Hawaii.

Part 4: Lessons from the 1980s

4.1 Lessons from the Past

The most important lesson we can learn from past Japanese investments is that investment decisions should be based on careful analysis of cash flow and economic return and not expectations of future asset price appreciation. Japanese investors in the past failed to get sound investment advice; at times they received unwise advice from their poorly chosen advisors. Japanese investors often did not properly assess the sentiments of local residents before making their land purchases and are later surprised by resident opposition to their planned developments. At times, Japanese investors failed to understand many of the local social, economic and political institutions that affect the viability of their investments. For example, they did not understand the (leasehold) land tenure system in Hawaii. They need to learn more about the local business culture in order to be good "corporate citizens" and in the process secure local government and resident support for their development initiatives.

Part 5: Hawaii's Present Investment Climate

5.1 Weaknesses

Among U.S. states, Hawaii has the reputation of having one of the highest cost of doing business (see Table 1). In a 1997 study, Regional Financial Associates ranked Hawaii 1st in relative business costs with an index of 123.23. The cost of doing business in Hawaii was 23 percent higher than the national average. The state with the next highest index was Connecticut (116.84). Financial World (November 18, 1996) ranked Hawaii 50th among the states in the lowest cost of doing business. While wages are lower on average in Hawaii, the cost of labor in Hawaii is among the highest.

The cost of living in Hawaii is also among the highest in the country, about 20 to 30 percent higher than the national average in recent years. Although low by comparison to housing prices in Japan and in other major cities in Asia (e.g. Hong Kong), housing prices in Honolulu are among the highest in the U.S. Property tax rates are among the lowest in the country; however, the overall tax burden (including state and local taxes) is higher than the national average.

Hawaii has relatively restrictive land use regulations, with regulations imposed at both the State and county levels. Changes in land use involve cumbersome and expensive approval procedures. Less than 5 percent of the land area in Hawaii is designated for urban use, with more than 51 percent of the urban land located on Oahu.

With a resident population of only 1.2 million and 7 million tourists (2 million Japanese visitors), the markets for most goods are relatively small in Hawaii. Lack of scale economies means costs and prices tend to be higher.

Table 1.0: Hawaii Competitiveness Indicators

Indicator	Hawaii	U.S	State Ranking (Year)
Estimated Burden of State and Local	4,542	4,417	19 ('96)
Maximum Personal Income Tax Rate	10%	7.3%	3 ('96)
State Sales (or Excise) tax Rate	4%	5.13%*	NA ('96)
Range of State Corporate Income Tax Rate	4.4% - 4.6%	1.0% - 10.75%	NA ('96)
Relative Business Costs Index	123.23	100.00	1 ('97)
Average Annual Pay	\$26,977	\$27,845	16 ('95)

Manufacturing Average Hourly Earnings	\$12.79	\$12.48	24('96)
State Minimum Wage per Hour	\$5.25	\$5.15	NA('97)
Workers Compensation Temporary Disability Payment (weekly benefit)	\$496	\$471	14('97)
Unemployment Insurance Costs	\$177.32	\$212.10	28('95)
Average Business Health Care Payments per Employee	\$1,823	\$2,239	46('93)
Share of Employed Workers Covered by Collective Bargaining Agreements	24.50%	15.00%	4('96)
Cost of Living Index	129	100	1('95)
Median Home Price	\$353,400	\$109,600	1('94)
Homeownership Rate	50.60%	65.40%	50('96)
Energy Prices (Dollar per Million BTU)	\$10.70	\$8.31	7('94)
Electricity Price (Dollar per Million)	\$31.41	\$20.34	3('94)

Source: Hawaii Economic Revitalization Task Force, Fact Sheet (1997).
United States Department of Labor

5.2 Strengths

Hawaii has exceptional natural resources to support a world class tourist industry. While tourism has matured on the island of Oahu (Honolulu), there is considerable capacity still untapped on the Neighbor Islands. Asian travel to Hawaii, and especially to Hawaii's Neighbor Islands, has yet to be fully developed.

Despite its high cost of living, Hawaii is an attractive and safe place to live. It has an outstanding climate, clean and beautiful environment, a multicultural and multilingual population that contributes to diversity, and is among the states with the lowest violent crime rates in the nation.

Located in the middle of the Pacific Ocean, Hawaii has special advantage in promoting research and developing industries relating to the ocean, space, and the tropics. The University of Hawaii is one of the world's leading research institutions in tropical agriculture, ocean, and space research. It is one of a few American universities designated by the U.S. government as a land grant, space grant, and sea grant college and receives substantial federal government financial support in agriculture, ocean and space research and development.

5.3 Japanese Business Perceptions of Hawaii as a Place to do Business

To assess Japanese business perceptions of Hawaii's business and investment climate, we conducted a self-administered survey of Nippon Club members in May, 1998 to solicit their perceptions of Hawaii as a desirable or undesirable place to invest and to do business. The Nippon Club comprises about 60 leading Japanese businesses in Hawaii, and membership in the Club is by invitation only. Useable returns were obtained from 40 members, a respectable rate of return for a moderate length mail-in questionnaire. Fifty percent of the responses (20) came from members who are in the "visitor" industry, and the rest represent diverse business sectors. Since responses from both groups were similar, they are combined in this paper.

Respondents were first asked to rate the relative importance of 5 factors in determining where to locate their business. The responses are summarized in Table 2.

Table 2

Relative Importance of Factors in Business Locational Decisions

Factor	Number of Responses	Percent of Total Responses
Cost of doing business	20	50.0%
Local receptivity	7	17.5
Government rules, regulations, incentives	7	17.5
Quality of life	3	7.5
Quality of labor	3	7.5
Total	40	100.0%

Source: Survey of Nippon Club Members, May, 1998.

The most important factor in deciding where to local their business is the cost of doing business, followed by local government and community receptivity and government rules, regulations and incentives. By contrast, the quality of life and quality of labor rank low in relative importance. (The survey did not include questions on market size or the expected future growth of local markets.)

Respondents were then asked to provide responses to more detailed questions on Hawaii's relative competitiveness in each of these five areas. These are summarized in Table 3. Generally, the survey reveals, except for the quality of life, that Hawaii rates poorly compared to other places as a place to investment and do business.

The cost-of-living, transportation costs, and taxes all contribute to the perception that Hawaii is a high cost state compared to other locations. Japanese businesses in Hawaii perceive that governments and local communities in Hawaii are not very receptive to Japanese investments/businesses in Hawaii. Impact fees and environmental laws, lack of investment incentives and weak control over lease rents lead the reasons for the negative image of the local governments. Hawaii's labor force is also not seen as being very productive, flexible or adaptable in comparison to workers elsewhere. The only areas in which Hawaii has significant competitive advantage are in the physical environment and climate, culture, low crime rates and similarities with Japan.

Table 3

Japanese Business Perceptions of Hawaii's Locational Competitiveness

<u>Factor</u>	<u>Not Competitive</u>	<u>Neutral</u>	<u>Competitive</u>	<u>N/A</u>
<i>Cost of doing business:</i>				
a. Overall level of taxes	62.5%	27.5%	7.5%	2.5%
b. Personal income taxes	52.5	42.5	0.0	5.0
c. Unemployment/worker compensation taxes	65.0	22.5	2.5	10.0
d. Transportation costs	65.0	22.5	12.5	0.0
e. Cost-of-living	82.5	12.5	5.0	0.0
<i>Receptivity/Feeling of Being Welcomed</i>				
a. State government attitude	40.0	37.5	17.5	5.0
b. County government attitude	47.5	40.0	5.0	7.5
c. Local communities attitude	42.5	35.0	17.5	5.0
d. Business community attitude	22.5	55.0	17.5	5.0
<i>Government</i>				
a. Government incentives	62.5	25.0	5.0	7.5
b. Environmental laws & regulations	70.0	20.0	2.5	7.5
c. Co. start up procedures and permits	45.0	45.0	5.0	5.0
d. Regulation of lease rents	60.0	32.5	2.5	5.0
e. Impact fees	70.0	17.5	0.0	12.5
f. Tort laws	37.5	50.0	2.5	10.0
<i>Quality of Life</i>				
a. Physical environment, climate, scenery	5.0	2.5	92.5	0.0
b. Crime	10.0	45.0	45.0	0.0
c. Similarities with Japan	7.5	52.5	40.0	0.0
d. Overall culture	10.0	35.0	52.5	2.5
<i>Quality of Labor</i>				
a. Ease of finding bi-lingual workers	30.0	35.0	35.0	0.0
b. Labor force productivity	50.0	40.0	10.0	0.0
c. Labor force flexibility/adaptability	42.5	47.5	10.0	0.0
d. Labor force loyalty & work ethic	25.0	52.5	22.5	0.0

Source: Survey of Nippon Club Members, May, 1998. The number of responses = 40.

In sum, Japanese businesses in Hawaii perceive Hawaii as most competitive in the area of quality of life, but not necessarily a competitive location to do business. Indeed, Table 2 reveals that Japanese businesses rate Hawaii poorly in those factors they believe to be *most important* to their locational decisions, and they rate Hawaii highly in the area *least important* to their locational decisions. So, why are they in Hawaii?

5.4 Why Japanese Invest in Hawaii

The answer, which is not revealed in the Nippon Club survey, is that for most of them there are markets that can only be served by being located in Hawaii. The visitor industry is the prime example. Tourists visit Hawaii because of its outstanding tourist amenities (e.g. beautiful scenery and excellent climate and, also for Japanese tourists, proximity to Japan); a potential Japanese investor in hotels cannot sell hotel services to Hawaii's tourists unless the investment is located in Hawaii. Even if Hawaii is a high cost state, every investor which invests in Hawaii's visitor industry competes on a level playing field with all other investors.

There are others who invest in Hawaii because "they like Hawaii". Uniden Corporation decided to locate a research office in Hawaii recently because the Chairman of Uniden likes Hawaii and wants to spend part of each year in Hawaii. Many Japanese executives having lived in Hawaii for a number of years do not want to return to Japan and would prefer to live in Hawaii if they can legally do so. Hawaii can take advantage of its high quality life style by using the Immigrant Investor Program to attract small business investors from Japan (and other Asian countries) who would like to invest in Hawaii because it would allow them to live in Hawaii. The Immigrant Act of 1990 created the Investor Visa Category allowing qualified applicants to obtain U.S. Green Cards (lawful Permanent Resident Status) through as little as \$500,000 investment in a U.S. enterprise. This status would entitle the investor to qualify for permanent residence in the U.S. So far, this program has attracted more than \$25 million in individual investments to Hawaii; about 80 percent of them have come from Taiwan.

5.5 New Laws to Improve Hawaii's Business and Investment Climate

A number of legislative measures passed by the 1998 Hawaii State Legislature and signed into law by Governor Ben Cayetano since our survey of Nippon Club members will improve Hawaii's business/investment climate. Among the new laws enacted include:

- * cutting personal income tax rates by 17.5 to 22 per cent in the next four years.
- * requiring state agencies to set deadlines to review and act on business permits and licenses, or the approval shall be automatically granted.
- * requiring state agencies to be more flexible and responsive to small business needs and to consider less restrictive and more practical rules that won't hinder small businesses.
- * prohibiting workers from collecting workers' compensation for mental stress resulting from disciplinary actions taken in good faith by an employer. This would help to reduce workers' compensation costs.
- * establishing a Foreign Capital Depository task force in the State Department of Business, Economic Development and Tourism (DBEDT) to attract foreign investment to Hawaii.
- * formulating a process to promote privatization of services and to implement private-public managed competition in order to promote greater efficiency in the provision of public services.

Part 6: Recommendations

6.1 To Potential Japanese Investors

In the future, potential Japanese investors should:

- a. Assess feasibility and viability of projects carefully on the basis of cash flow.
- b. Value projects on the basis of global interest rates which is the real cost of money.
- c. Obtain an early understanding with local government leadership about what charges and public services might be demanded of the project.
- d. Insist on long-term lease agreements if the fee title to the property cannot be

purchased outright.

e. Develop dialogue with the community to determine what kinds of investments will be tolerated and welcomed. Investments for a quick turn-around profit should be avoided, and is likely to be resisted in Hawaii.

f. Pick local advisors carefully. But pick a local advisor. Even better, choose local partners who will share the risk and who can be trusted. Despite the Japanese general preference for total ownership, there are fewer problems when a local partner can be obtained.

6.2 To Hawaii

a. The State Government needs to provide better investor education and client services to attract the desired types of investment to Hawaii and reduce risk and uncertainty to investors and maximize their chances of success. The First Hawaiian Bank eliminated its research department and the Bank of Hawaii has restructured and downsized its economics department this year. As a result, economic information on Hawaii will become even more difficult to obtain than in the past. It is an indication of poor quality service when the State Government was cited last as the source of information by Japanese investors in the November, 1996 Japan-Hawaii Economic Council survey.

b. Hawaii has to demonstrate that it welcomes Japanese investments. In his new book entitled *The Political Economy of Japanese Foreign Direct Investment in the UK and the U.S.* (St. Martin's Press, May, 1998), Carl Aaron documents how "subnational proactivity" serves to enhance the attractiveness of the locations ultimately selected by Japanese multinationals for investment. To attract Japanese investment to Hawaii, state and county government officials at the highest levels need to take more active, personal role in engaging Japanese officials and business leaders to convince them to invest in Hawaii. Japanese investors place a high value on being welcomed to a community.

c. The State and local governments must continue to work to reduce the cost of doing business in Hawaii by improving efficiency, encourage openness and competition.

In our discussions with officers of Japanese-owned businesses in Hawaii, it became clear that the most important factor in attracting future Japanese invests to Hawaii is to revitalize Hawaii's stagnant economy. Hawaii's markets are small, and in recent years, those markets are not growing, and some may well be declining. If the economy does not grow, there would be little interest among the Japanese to invest in Hawaii. Hawaii needs to continue to improve its business climate and competitiveness.

Part 7: New Investment Opportunities in Hawaii

This section identifies a selected number of potential Japan-oriented investment opportunities in Hawaii in six economic sectors. Careful consideration was given to identify opportunities based on their general feasibility, potential for local acceptance and support, Hawaii's comparative advantages, and appeal to primarily Japanese consumers. Opportunities that appeared weak, based on these criteria, were eliminated.

These criteria form a "first order-of-magnitude" analysis based on the professional judgement of study team members, suitable for the purposes of this paper. More rigorous analyses such as economic or financial feasibility studies are beyond the scope of this paper, but would clearly be required before investor funds were committed.

Most of the opportunities presented require low-to-modest initial capital investment and rely principally on a constant stream of revenues for their returns. They represent a significant departure from the types of Japanese investment in Hawaii to date. Consequently, they may appeal more to a different set of investors than have previously invested in Hawaii.

The investment opportunities fall into the following six sectors: Agriculture, Aquaculture, Education, Health Care, High-Technology, and Sports. A brief description of each follows, with additional details in the attached appendix.

I. AGRICULTURE

1. Allergen-free white taro flour and finished food products

Investment Opportunity: Establishment of a flour mill and related facility for the production and marketing of white taro flour; estimated to be around \$500,000 to \$1 million for a production capacity of about 300 pounds a day.

Market: Substitute foods made of taro flour for the allergic population in Japan

2. General Consumer-Oriented Agricultural Products

Investment Opportunity: Establishment of farms and/or processing facilities in the production and marketing of consumer-oriented agricultural products such as beverage products, cut flower, foliage plant, fresh fruits, fresh vegetables, and other manufactured food products.

Market: Japanese consumers of agricultural products. In 1995, this made up \$5.2 Billion of American exports, \$33.3 Million of which came from Hawai'i.

3. Kava as a Phytopharmaceutical

Investment Opportunity: Establishment of a farm and processing facility for the production and marketing of kava

Market: Kava as a non-addictive relaxant for the stressed city dwellers in Japan

II. AQUACULTURE

Investment Opportunity: Production and marketing of high-valued aquacultured products for food, ornamentals, nutritional supplements, and pharmaceuticals.

1. Cultured Freshwater and Marine Ornamental fish

Investment Opportunity: Establishment of an ornamental fish farm (construction of buildings for rearing/holding/sorting and hatchery facilities); estimated to be around \$250,000 for a facility with 200 ten gallon tanks.

Market: Home-hobbyists, (public aquaria and research institutes) in Japan

2. Karuma Shrimp (P.Japonica)

Investment Opportunity: Establishment of a kuruma shrimp farm (pond construction, etc.) and processing facility; estimated to be around \$1 million for a pilot two-acre farm with 4 1/2-acre ponds producing 50,000 lbs. a year.

Market: Live shrimp for high-class restaurants in Japan

3. Microalgae Products Such as Astaxanthin

Investment Opportunity: Establishment of a farm that will grow and market microalgae products such as Astaxanthin.

Market:

Near-Term Market - nutraceuticals, colorants, and sunscreens used in the food, animal feed, textile, personal care products, and cosmetics industries.

Mid-Term Market - therapeutic drugs, diagnostic tools, medically-approved nutritional supplements, fungicides, bactericides, and pesticides.

Long-Term Market - aquatic animal feed products and for photobioreactors as environmental remediation technology.

III. EDUCATION

1. Multimedia Training Center and Laboratory

Investment Opportunity: Development and operation of multimedia training center to instruct Japanese professional and students in multimedia applications.

Market: Japanese corporations, advertising companies, and students.

IV. HEALTH CARE

1. Residential Facilities for Elderly

Investment Opportunity: Assisted care residential facilities for the elderly. This is a limited partnership investment under the State's Immigrant Investment Program. For an investment of approximately \$500,000, the investor can also obtain a Green Card enabling the holder to reside permanently in the U.S. and actually live in one of the units in the facility.

Market: Affluent Japanese retirees who are currently living in Japan as well as current (and former) Japanese executives who have lived and worked in the U.S. Many of these senior citizens are still relatively healthy, but might prefer the higher quality health care services and/or the lifestyle attractions that Hawai'i offers relative to retirement in Japan or elsewhere.

V. HIGH-TECHNOLOGY

1. Remote Sensing Technologies

Investment Opportunity: Training enterprise for Japanese scientists in remote sensing technology and applications; start-up companies in remote sensing for Japanese and other Asian country applications; investment in existing remote sensing companies based in Hawaii.

Market: Users of remote sensing devices throughout the Pacific Rim and the world.

V. SPORTS

1. Fantasy Sports Camp

Investment Opportunity: Operation and marketing of "fantasy" sports camp for Japanese adults and/or children.

Market: Japanese schoolchildren college students, and company outings who are interested in improving their baseball, basketball, or soccer skills and socializing with sports stars, and/or increasing "team unity".

2. Tennis or Golf Academy

Investment Opportunity: Operation and marketing of a tennis or golf academy, with celebrity endorsement. The tennis academy could be held at an existing complex or in partnership with an upcoming facility such as the County's tennis complex in Waiola, a resort's facility, or at a newly built complex. The golf academy would most likely be held at an existing resort.

Market: Different categories of Japanese tennis players, including pre-collegiate students, junior college women, young professional women, and "team building" groups of executives.

**MORE DETAILED DESCRIPTION OF NEW INVESTMENT
OPPORTUNITIES**

Agriculture

Allergen-free white taro flour and finished food products

Investment Opportunity: Establishment of a flour mill and related facility for the production and marketing of white taro flour; estimated to be around \$500,000 to \$1 million for a production capacity of about 300 pounds a day.

Market: Substitute foods made of taro flour for the allergic population in Japan

Background:

1. Up to 3% of, or approximately 900,000 children in Japan, and many adults, suffer allergies from food. The number of food-allergy people in Japan has dramatically increased in the 90s. These consumers are looking for products that can be eaten on a daily basis for years.

2. People with allergies must remove all allergy-causing foods from their diets in order for them to live a healthy and normal life. This can cause enormous stress for the allergic population particularly in Japan where eating is not just a necessity but of great social significance. If one does not eat what everyone else is eating, certain social stigmas are attached.

3. One way to get around these problems is to serve foods that mimic the appearance of daily staples, but which are in fact made from allergen-free ingredients. Examples are rice-looking substitute made from cornstarch and noodles from tapioca.
4. Currently, there are hundreds of foods that are labeled allergen-free on the shelves in Japan but many of them are still not up to the quality standard of 100% allergen-free.
5. Taro does not have any naturally occurring hazardous components. Furthermore, the white-flesh variety do not require any extra processing or bleaching to turn them into products mimicking traditional white rice and noodles. This is not only a cost-saving but also reduces the chance of contamination from the bleaching process.

Favorable Factors for Hawai`i Production:

1. Hawai`i has a long history of taro production with vast amount of production knowledge accumulated.
2. Hawai`i has some of the most favorable growing conditions for taro.
3. Hawai`i has strict safety and health standards for agricultural production and food processing. Products are of the highest quality standard unlike other taro-growing regions in the world.
4. A pilot processing plant has produced taro flour successfully in Hawai`i.

Unfavorable Factors:

1. Other lower-cost taro-producing areas will improve their quality standards and start to enter the allergen-free ingredient markets in Japan.
2. At this time, production cost of taro in Hawai`i is high and the processed flour will not be competitive with other ingredients. However, large-scale heavily mechanized taro production as well as a large-scale processing plant may bring the cost down to a competitive level.

General Consumer-Oriented Agricultural Products

Investment Opportunity: Establishment of farms and/or processing facilities in the production and marketing of consumer-oriented agricultural products such as beverage products, cut flower, foliage plant, fresh fruits, fresh vegetables, and other manufactured food products.

Market: Japanese consumers of agricultural products. In 1995, this made up \$5.2 Billion of American exports, \$33.3 Million of which came from Hawai`i.

Background:

1. U.S. agricultural exports to Japan have increased at an annual average of 8.7% over the last five years. The share of consumer-oriented products has grown from 35% in 1990 to 47% in 1995.
2. Since entry to the Japanese market is difficult for Hawai`i producers and marketers in general, investments by Japanese nationals would provide an easier access to the Japanese markets.

3. A recent study identified the following as best products for the Japanese markets: papaya, roasted coffee, coffee drinks, green coffee beans, confections (including macademia nuts and chocolate-covered macademia nuts), cut flowers, foliage plants, gift foods, snack foods, fresh and processed foods, organic and food supplements, and bottled water.

4. The leading 1995 exports of some of these Hawai`i products to Japan are:

Product	FAS Value (\$000) _
Fresh Papayas	14,113
Chocolate Products (including macademia nuts)	7,138
Cut Flowers & Buds	3,485
Macademia Nuts	2,158
Beef & Pork Products	1,708
Fruit Juices	1,040
Coffee (roasted and not)	833
Fruits & Nuts (uncooked or cooked by steaming)	421
Corn Chips & Savory Snacks	334
Fresh Vegetables	100
Jams & Fruit Preserves	99

Favorable Factors for Hawai`i Production:

1. The University and the State are very active in promoting the production and marketing of these products.

2. The Japanese has a very positive image about Hawai`i and its products.

3. Strong cultural and business connections exist between Hawai`i and Japan.

Unfavorable Factors:

1. Japan has strict phytosanitary regulations, product certification and quality standards.
2. Competition from other tropical and subtropical countries particularly in the Asia-Pacific region such as the Philippines, Thailand, Indonesia, and Australia.

Kava as a phytopharmaceutical

Investment Opportunity: Establishment of a farm and processing facility for the production and marketing of kava, a plant derivative used throughout the Pacific Islands for medicinal and ceremonial purposes.

Market: Kava as a non-addictive relaxant for the stressed city dwellers in Japan

Background:

1. Kava has the potential as a phytopharmaceutical for the treatment of specific disorders such as anxiety. A phytopharmaceutical is a drug obtained by processing a botanical (a plant drug) relative to standards of identified chemical components that are pharmaceutically active or are markers of activity.
2. The market potential for kava products is international but currently is weakly developed outside of Europe. Europe markets two leading kava products (one with 400 mg of kava

extract, the other with 70 mg of kavalactones) as prescription drugs and over-the-counter sales in the form of sugar-coated tablets. Total sales are about \$14 million.

3. Kava products provide similar mode of action and effects as Valium. Valium went on sale as an anti-anxiety drug in the early 70s and, according to Forbes business magazine, became "the first blockbuster prescription drug with sales of \$750 million a year." Kava could replace Valium as it is non-addictive.

4. Kava can provide a critical need of the many stressed city-dwellers in Japan, who have a long tradition of herbal-medicine, with a non-addictive relaxant.

5. Kava is a native plant grown in the Pacific such as Vanuatu, Fiji, and Hawai`i for social, ceremonial, and exports use.

Favorable Factors for Hawai`i Production:

1. Kava is native to Hawai`i where it is cultivated and marketed in small quantity.
2. Hawai`i is eager to look for potential alternative crops for economic development particularly in the depressed rural areas.
3. Hawai`i has a stronger cultural, economic, and political tie to Japan compared to other potential Pacific growing areas.

Unfavorable Factors:

1. The import of dietary supplements and botanicals into Japan is highly restricted.
2. There are still gaps in knowledge of all aspects of commercial kava growing

3. The kava industry in Hawai`i is presently not well organized for systematic planning and coordinated action.
4. Public awareness of the pharmaceutical use of kava is very limited.
5. Protection of products through patents and other means has not been established.
6. Market development is necessary and marketing channels need to be established.
7. Other Pacific areas namely Fiji and Vanuatu could possibly produce kava products cheaper than Hawai`i.

Aquaculture

Investment Opportunity: Production and marketing of high-valued aquacultured products for food, ornamentals, nutritional supplements, and pharmaceuticals.

Cultured Freshwater and Marine Ornamental Fish

Investment Opportunity: Establishment of an ornamental fish farm (construction of buildings for rearing/holding/sorting and hatchery facilities); estimated to be around \$250,000 for a facility with 200 ten gallon tanks.

Market: Home-hobbyists, public aquaria and research institutes in Japan

Background:

1. Ornamental fish refer to live fish for decorative purposes in aquaria, fish tanks, pools and garden ponds.
2. The estimated retail value of ornamental fish worldwide is US\$3 billion.
3. Japan is the third largest importer of ornamental fish after US and EEC with an estimated import value of US\$79 million in 1995. Imports to Japan have been growing rapidly indicating an expanded demand.
4. Hong Kong, Singapore and Florida are the main suppliers of ornamental fish to Japan.
5. The increasing demand in Japan and the recent production setbacks in Singapore and Florida provide a unique opportunity for ornamental fish aquaculture in Hawai`i.

Favorable Factors for Hawai`i Production:

1. Hawai`i has already established a strong reputation in providing high quality captured reef fish because of better supervision of workers in the industry and close monitoring by the exporters of harvesting methods.
2. Hawai`i also has a competitive edge over Singapore and Florida because the costs of air shipments and the total time in transit to Japan are significantly less.
3. Hawai`i has already established an aquaculture research and training infrastructure with many qualified experts available.

4. Hawai`i is the home to recognized breeders of world-class freshwater tropical fish. This could be a potentially valuable resource (if they choose to become a part of "the industry".)

5. Hawai`i has established market channels to Japan through several successful exporters and trans-shippers.

6. State and federal programs are in place to support the development of ornamental aquaculture.

Unfavorable Factors:

1. Hawai`i has a rather complicated and lengthy permitting process for aquaculture.

2. There is a threat to eliminate the Aquaculture Development Program, a State agency providing the development and extension support for the aquaculture industry in Hawai`i.

3. Hawai`i has yet to establish a reputation, good or bad, for culturing tropical fish. The industry is still young.

4. The industry is relatively unorganized. Production levels have not reached quantities where cooperatives or regional marketing strategies have developed.

Karuma Shrimp (P.Japonica)

Investment Opportunity: Establishment of a kuruma shrimp farm (pond construction, etc.) and processing facility; estimated to be around \$1 million for a pilot two-acre farm with 4 1/2-acre ponds producing 50,000 lbs. a year.

Market: Live shrimp for high-class restaurants in Japan

Background:

1. The consumption of live seafood, including kuruma shrimp, is an upper-class niche market in Japan. It is relatively small, mostly confined to the restaurant trade, and its demand is largely dependent upon business entertainment and consumers with a high disposable income hosting festivals and celebrations.

2. Live kuruma shrimp bring outrageously high prices in Japan, as high as \$100 a pound retail. The average wholesale price in the Tokyo market for the month of March (up to March 19, 1998) is 4,800 yen/kg (\$17/lb) with a high of 8,500 yen/kg (\$30/lb). Since product is sold through auction, prices are unpredictable. Prices are higher during holidays, golden week, Christmas, New Years.

3. Currently, capture fisheries provide slightly less than half of the total consumption in Japan estimated to be slightly more than 6,000 mt. The landings of kuruma shrimp are not expected to improve, as catches are thought to have reached the maximum levels of exploitation of the resources.

4. Domestic aquaculture provides about 3,000 mt and the rest are met by imports from China, Taiwan, and recently Australia (about 500 mt of imports in total). The production of cultured kuruma shrimp in Japan is not expected to increase much from its current level because of the scarcity of suitable production areas and the anticipated increase in supply from overseas producers whose production costs are relatively lower. Recently, a virus is affecting the farms producing kuruma shrimp in Japan, China and Taiwan. Australia has

already started to capture this opportunity. There is still room for other producing areas such as Hawai`i to capture this lucrative market in Japan.

Favorable Factors for Hawai`i Production:

1. Hawai`i has a year-round consistent growing condition for kuruma culture with the capability of growing more than one crop per year. Most other producing areas can only produce one crop per year.

2. Hawai`i is very experienced in shrimp farming in general with an extensive research base developed. For example, the U.S. Marine Shrimp Consortium is housed in the Oceanic Institute here in Hawai`i.

3. Kuruma shrimp has been grown successfully by a Japanese venture in the late 70s and early 80s on the North Shore of Oahu.

4. Experienced shrimp managers, technicians and skilled personnel are available.

5. Hawai`i is well known for its high quality standards of its cultured aquatic products, e.g., high-health shrimp.

6. Hawai`i has a history of strong government support in aquaculture development and extension.

Unfavorable Factors for Hawai`i:

1. Hawai`i has a rather complicated and lengthy permitting process for aquaculture.

2. There is a threat to eliminate the Aquaculture Development Program, a State agency providing the development and extension support for the aquaculture industry in Hawai`i.
3. Cost-effective high protein diet and special feed formulations may be difficult to realize in Hawai`i.
4. Rearing ponds require clean sand bottoms. The more expensive round ponds and center drains would probably be necessary. These design features require additional up-front costs and higher maintenance costs.
5. The packing of live shrimp requires low temperature holding tanks and packing facilities. Handling live shrimp requires staff to be well trained and knowledgeable (increased labor costs) in order to assure consistency. Harvesting and marketing risks are higher than for a frozen product.

Similar Investment Opportunities: Flounder, Red Sea Bream

Microalgae Products Such as Astaxanthin

Investment Opportunity: Establishment of a farm that will grow and market microalgae products such as Astaxanthin.

Market: For Microalgae product in general:

The Near-Term Market is for products such as nutraceuticals, colorants, and sunscreens used in the food, animal feed, textile, personal care products, and cosmetics industries. The value of this market is estimated to exceed \$3 Billion annually.

The Mid-Term Market is for products that include chemicals from microalgae with application as therapeutic drugs, diagnostic tools, medically-approved nutritional supplements, fungicides, bactericides, and pesticides.

The Long-Term Market is for the growing demand of aquatic animal feed products and for photobioreactors as environmental remediation technology. This market size is expected to exceed \$10 Billion a year.

Background for Astaxanthin:

1. Astaxanthin is a bioactive natural red pigment derived from microalgae that can replace synthetic colorings in salmon, trout, shrimp, and poultry feed. It improves health, survival and fertility in fishes, poultry and livestock.

2. The market is valued at more than \$125 million, and growing at 15% per year. Emerging markets in poultry and livestock feeds are expected to add another \$125 million. World market price is \$2,500 per kilogram.

Favorable Factors for Hawai`i Production:

1. Hawai`i has a very favorable condition to grow microalgae, which require raw materials that are abundant in Hawai`i: sunlight, water, carbon dioxide and nutrients.

2. Existing biotechnology firms in Hawai`i have already produced astaxanthin in commercial-scale providing the majority of the world supply.

3. Hawai`i has a strong pool of scientists, technicians, and skilled labor force in marine biotechnology.

4. The State government has made a commitment in establishing excellence in biotechnology research and development.

Unfavorable Factors:

1. Other localities worldwide will compete for the lucrative biotechnology markets by providing incentives to attract startup firms as well as research infrastructure for the continuous development of this industry. Hawai`i has to compete aggressively and rapidly.

Similar Investment Opportunities: Natural products such as proteins, enzymes, sugars, fats, amino acids, vitamins, and unusual bioactive compounds.

Education

Multimedia Training Academy

Investment Opportunity: A multimedia training academy for Japanese using state of the art equipment, techniques and instructors based largely in the U.S.

Market: Japanese corporations, advertising companies, and students.

Background:

1. Internet use is growing at a tremendous pace. A recent study by the U.S. Commerce Department found that the digital economy is growing a twice the rate of the overall

economy, and that it currently represents 8% of the US GDP. Internet traffic is doubling every 100 days, and electronic commerce in the U.S. is projected to reach \$326 billion by 2002.

2. Multimedia via the internet and intranets (exclusive networks) have become extremely powerful and effective business tools, able to be used to enhance companies' marketing, sales, customer service, internal training, and product support. There are numerous ways that US companies currently use multimedia to improve their bottom line, including using the ability to combine text, data, graphics, video, and audio information in unique ways that offer a wide range of applications in marketing, management, education, and entertainment applications. Many of these applications could be used in Japanese companies.

3. Continued improvements in internet bandwidth and server speeds will enable greater volumes of data to be transmitted and received, ensuring development and application of increasingly sophisticated multimedia software over the coming decade. Modems will soon be available that deliver 1.5 megabits per second, about 30 times faster than presently possible over the fastest modems in use.

4. The US is the recognized leader in the development and use of multimedia. A few select universities in the US offer degree programs in multimedia and offer tailored courses for companies and working professionals. The industry is concentrated in California, where over 60% of multimedia and internet software companies are located.

While internet applications have been embraced by many U.S. businesses, Japanese companies have been slower to employ them. But global commerce will increasingly be shaped by the internet, gradually turning its use by businesses from a comparative advantage to an absolute necessity.

Favorable Factors for Hawai`i:

1. San Jose State University (SJSU) and San Diego State University (SDSU) are jointly organizing an accredited advanced degree program in multimedia in cooperation with Hawai`i State Dept. of Education and the Oahu Economic Development Board. Faculty from SJSU & SDSU would develop the program and teach courses, and bring in top leaders and innovators from the industry for short-term courses and seminars.

2. Initial courses and training sessions may be conducted in existing facilities, such as the Japan-America Institute of Management Science (JAIMS) in Honolulu.

3. SJSU/SDSU propose the development of a Multimedia Learning and Development Center with state of the art equipment in Honolulu to deliver courses. Initial specifications have been proposed, including \$1.1 million in hardware and \$80,000 for software. A 7,000 square foot or larger facility would be needed.

4. Dentzu Corporation has been approached by the above consortium about sending a contingent to a short, focused introductory seminar on multimedia technology and applications. This seminar would be held in Hawai`i, potentially at the Japan-America Institute of Management Science (JAIMS) in Honolulu.

5. Tuition for degree programs would range between \$200 - \$250 per credit hour, or \$7,200 - 9,000 for a typical Masters of Science degree. Fees for tailored courses, training, or seminars would be considerably higher (as much as \$500 - \$725 per person, per day).

Unfavorable Factors:

1. Japanese clients may prefer to conduct training in Japan or California, to minimize travel costs.
2. Japanese investors and operators would need to establish a partnership with U.S. institutions and/or companies to deliver much of the training and curriculum.
3. Successful implementation would require bringing top innovators and instructors to Hawai'i on a regular basis to teach about leading edge products and applications.

Health Care

Residential Facilities for the Elderly

Investment Opportunity: Assisted care residential facilities for the elderly. This is a limited partnership investment under the State's Immigrant Investment Program. For an investment of approximately \$500,000, the investor can also obtain a Green Card enabling the holder to reside permanently in the U.S. and actually live in one of the units in the facility.

Market: Affluent Japanese retirees who are currently living in Japan as well as current (and former) Japanese executives who have lived and worked in the U.S. Many of these senior citizens are still relatively healthy, but might prefer the higher quality health care services and/or the lifestyle attractions that Hawai'i offers relative to retirement in Japan or elsewhere.

Opportunity:

1. Japan is the most rapidly aging society in the world. In 1994, 17.59 million Japanese were aged 65 and over. By the year 2010, 27.75 million Japanese are expected to be 65 and over. At the same time, the percentage of households where children and elderly live under the same roof has been decreasing; presently only 40 percent of the elderly live alone or as a couple.

2. Traditionally, children (particularly daughters-in-law) took care of aging parents in Japan. When homecare is unavailable or impractical, Japanese use hospitals as long-term nursing care facilities. In 1993, the average length of stay at a Japanese hospital was nearly 48 days compared to 8.8 days in the U.S.

3. Public nursing home facilities are cheap but difficult to get into in Japan. Private facilities are scarce and very expensive with hefty front end payments (some as high as one-half to one million dollars) plus monthly fees.

4. There is no industry in Japan which provides residential services combined limited personal and health care services to those elderly who are physically still capable, but could use some assistance in cleaning, shopping, meal preparation, and other personal services.

5. As the number of Japan elderly (aged 65 and over) population increases sharply in the next decade, the country faces severe problems in providing assisted living and other health care services demanded by its elderly population.

6. A typical assisted living residential facility could provide utilities, maid service, wellness programs, on call staff, medication reminder service, assistance with bathing and dressing,

daily status checks, and assistance with errands, shopping, and transportation. Some even provide skilled nursing facilities.

Favorable Factors:

1. Hawai`i is eager to promote personal/health care services to nonresidents, hence such investment will be welcomed in Hawai`i.

2. Since there is a need for additional facilities in Hawai`i to meet the growing demands of a aging populations in Japan and in the U.S., new investment will be required.

3. Japanese find Hawai`i an attractive place to live for environmental, geographic, climatic, and cultural reasons.

4. Compared to other moderate climate locations in the U.S. (e.g. California, Arizona, Florida), Hawai`i is closer to Japan and an easier travel destination for the elderly. This could enable retirees to live part of the year in Japan and part of the year in Hawai`i.

5. Hawai`i has the lowest investment requirement in the U.S. to qualify for a Green Card; in all other states, the minimum investment requirement is around \$1 million.

6. Three assisted elderly facilities are currently being marketed in Hawai`i under this immigrant investment program, and the State of Hawai`i has an office to help potential foreign investors to qualify for the Green Cards.

Unfavorable Factors:

1. Compared to other locations in the U.S., costs are generally higher in Hawai`i.

2. Development of new facilities may require land use re- classification and zoning approvals, particularly on the Neighbor Islands. Obtaining the necessary approvals and permits to build may be more cumbersome and require more time and expense than in other U.S. locations.

3. The U.S. visa waiver program is limited to 3,000 per year for the entire U.S. which places an upper limit on the total potential investment in Hawai`i. (Note: only 1200 were used last year.)

High-Technology

Remote Sensing Technologies

Investment Opportunity: Remote sensing opportunities in Hawai'i involve both people and equipment. There is already a critical mass of human talent, but in general they are not backed up by sufficient hardware and facilities to meet the quickly building backlog of remote sensing needs, particularly for the greater Pacific Asia market.

Market: Users of remote sensing devices throughout the Pacific Rim and the world.

Background:

1. Devices such as TerraSystems' custom-built Application Specific Digital Spectral Imaging (ASDSI) system, a compact airborne system providing high spatial resolution, may be ripe for example for commercial production. Better large scale systems for integrating images and environmental maps obtained from satellite or airborne spectral data

analysis into Geographic Information System layers could immediately multiply market opportunities.

2. Other equipment and facilities now used in Hawai'i and in need of expansion or upgrading include Macintosh and IBM-PC compatible computers for word processing, accounting and related functions, and Pentium-based computers for software and hardware systems modeling and design, data acquisition and analysis. High power computer capabilities (SGI/UNIX), special equipment and other facilities are currently accessed via the Internet at Software Tool and Die, and the Maui High Performance Computer Center.

3. Investment in Existing Companies. Companies like those listed above can be significantly impacted by relatively low levels of investment in equipment, facilities, and researcher costs (\$100,000 to \$1 million, the typical size of NASA grants), and as private entities with relatively few restrictions, are in a position to trade equity for investment with potentially very high ROI's.

4. Creation of a Training Enterprise for Japanese Remote Sensing Specialists. There is a sharp need in Japan for training dozens if not hundreds of remote sensing specialists for a wide variety of applications. Even Japan's most sophisticated remote sensing scientists at NASDA come to Hawai'i today to consult Hawai'i's remote sensing experts. As the number of remote sensing applications greatly increases over the next ten years, companies with direct contacts in Japan that can market Hawai'i's training capabilities would be in an excellent position to gain from investment in training enterprises in Hawai'i.

5. Start-up Companies. The greatly expanding number of applications in remote sensing can now justify major investment to help one or more companies achieve critical mass (200-500 or more employees) to serve a broad spectrum of these needs. Hawai'i is

uniquely positioned to provide the expertise and infrastructure to support such an effort, and Hawai'i's positioning in the Pacific should provide great advantage in serving the markets of highest potential demand in Asia.

6. Coral Reef Biology Surveys. Coral reef health affects the economic well-being of a large number of fisheries-dependent Pacific nations.

7. Precision Agriculture Surveys. Crop disease and forestry surveys are becoming increasingly critical in Southeast Asia.

8. Mobile Communications Surveys. Topographic outlay for efficient communications deployment is becoming particularly critical in China.

Favorable Factors for Hawai`i:

1. Hawai'i enjoys unique natural environments attracting the world's top geophysicists. For instance, the state's mid-Pacific position that is ideal for "clean" ocean and climate change studies, high mountains surrounded by sea, with little pollution, ideal for large telescopes, and nearly continuous volcanic activity gives direct insight to key geological processes

2. NASA and other science agencies have long recognized Hawai'i's natural importance and suitability for earth and planetary sciences. Substantial NASA and related science agency funding goes directly to Hawai'i companies, individual researchers, and the University of Hawai'i.

3. Hawai'i now enjoys many "firsts" in the space sciences, including: The world's most powerful collection of earth-based telescopes; the top-rated team of specialists in the

combined analysis of the Moon, asteroids and meteorites; and award-winning projects in the use of satellite and airborne image techniques for all types of earth observation.

4. Hawai'i is now a centerpiece of NASA's Earth Observation Commercial Applications Program (EOCAP) that encourages researchers to seek commercial contracts for their work and/or establish their own commercial enterprises. This program has helped to create one of the world's strongest talent pools for geophysical remote sensing in Hawai'i, and shows the importance that NASA places on Hawai'i's Pacific Asia location as strategically critical to its international marketing goals for remote sensing commercialization

5. Hawai`i is especially well equipped to support self-sustaining enterprises, institutional facilities, and training centers in the following fields: Monitoring of the Earth's Environment, Mitigation of Natural Hazards, and Efficient Recovery of New Resources.

6. A variety of small businesses that deal with remote sensing have already sprung up in Hawai`i over the last 3 to 5 years. Some of these are: Science & Technology International, Terra-Systems, and Pacific Island Technologies.

7. The University of Hawai'i itself has several centers of established excellence in remote sensing, including the Institute for Astronomy, now engaged in remote sensing for geological understanding of the economic mineral potential of the Moon and asteroids, the Hawai'i Institute of Geophysics and Planetology, engaged in remote sensing studies of volcano and other natural hazards, and the new International Pacific Research Center, jointly established with Japanese government agencies to focus on remote sensing climate studies.

8. Hawai'i's leading-edge remote sensing technology corporations provide airborne and spaceborne remote sensing imagery and imagery products to managers and engineers involved in environmental monitoring and engineering, coastal assessment, and land use and resource management. These specialists provide expert professional services primarily in digital imagery acquisition, processing and analysis obtained from panchromatic, multi-spectral, hyper-spectral and imaging radar sensors.

Unfavorable Factors for Hawai`i:

1. The simple but real risk of losing out to mainland US and other competing investors,
2. Legal and political concerns, such as issues of Intellectual Property rights, privacy and national sovereignty are likely to arise. For the more practical commercial applications outlined above, however, these should not be immediate concerns, and intensive review and appropriate advocacy for the longer-term issues should keep the field of Remote Sensing both productive and profitable.

Sports

Fantasy Sports Camp

Investment Opportunity: Operation and marketing of "fantasy" sports camp for Japanese adults and/or children.

Market: Japanese schoolchildren college students, and company outings who are interested in improving their baseball, basketball, or soccer skills and socializing with sports stars, and/or increasing "team unity"

Background:

1. Fantasy camps are popular in Florida, Arizona, California, and the Caribbean. These are all warm weather vacation destinations that compete with Hawai`i for tourists. The camps are already proven attractions for tourists. Bermuda, for instance, lobbied hard for a fantasy basketball camp and expressly built facilities for this, beating Aruba and Puerto Rico in order to increase tourism. The "Big League Dreams Sports Park", in Cathedral City, CA, has developed a year-round tourist industry based on fantasy camps.

2. There are over 40 Baseball fantasy camps currently being run in the United States, with more planned. People pay from \$400 to \$600 a day for the 3-8 day camps, which serve wealthy visitors who are interested in a "theme" vacation.

3. Baseball is one of Japan's oldest and most popular spectator sports. It has a devoted fan base that spans generations.

4. In addition to baseball camps, there are also hundreds of basketball camps throughout the country that concentrate on teaching skills to children or adults. Most NBA and major college teams have these camps and they run about \$2000 for a three-day camp. It should be noted that basketball is growing in popularity in Japan. Recent NBA exhibition games in Tokyo have drawn over 40,000 spectators a game. Soccer camps are another possibility, capitalizing on the J-League's fan base.

5. Soccer camps are another possibility, capitalizing on the J-League's fan base, and growing interest in the sport as Japan's national team rises in international competition.

Favorable Factors for Hawai`i:

1. Both the City of Honolulu and the State of Hawaii have plans to develop large sports complexes capable of hosting several games simultaneously, In addition there are other existing venues, including the University of Hawai`i baseball stadium and several high school baseball stadiums. Investors could rent exclusive use of existing or planned facilities (such as at Kapolei, Waiola, or Waipi`o) and concentrate on program development and marketing. By renting an existing facility, the essential capital is limited to a few star athletes, other coaches & instructors, and equipment.

2. The City & County of Honolulu and the State of Hawai`i are each attempting to lure Japanese professional teams to conduct spring training in Hawai`i. Recruiting a professional team would validate Hawai`i's place in Japanese baseball and expose the facilities to Japanese media and fans.

3. There is already a fantasy baseball camp being planned for December, 1998 in Honolulu. Featured instructors are: Cal Ripken, Jr. (Baltimore Orioles); Hideo Nomo (Los Angeles Dodgers); and Mike Piazza (Los Angeles Dodgers). Two sessions are planned: one aimed at Japanese youth, and the other targeting American fathers and sons. A Japanese entrepreneur might seek to join this group or organize another camp.

4. The favorable climate here could make the camps a year-round opportunity. Active major league players from Japan and the US would only be available from October through January, but retired players could be available anytime.

5. Because Hawai`i is such a popular destination for both Japanese & American tourists, it should be easy to induce families to come for a short visit, with one member (such as a teenage child) participating in the camp and the rest enjoying other aspects of a Hawai`ian

vacation. There are many cross marketing opportunities (with a Waikiki hotel, airlines, tour companies, etc.) Package deals could be arranged for entire family vacations with one or more children attending a sports camp as part of the package.

Unfavorable Factors:

1. Existing sports complexes are in short supply relative to local demand. Proposed City and State sports complexes at Kapolei, Waipi`o, and Waiola are not yet fully funded.
2. Star professional athletes are in high demand and could only be available during the off-season. On the other hand, retired star athletes may demand lower salaries and be much more available.
3. While fantasy camps are popular among American youth and adults, their potential popularity among Japanese youth is unknown. Also, unlike American adults, some Japanese men may be embarrassed to be part of a fantasy camp, since it is not something that is socially acceptable. One exception may be company groups who could use the experience to increase camaraderie.
4. If the costs of real estate and building proper facilities are too great, the investor will have to rely on fields owned by others, so that it will not be a "seamless" investment opportunity. While renting facilities would lower investment costs, it would increase operation uncertainty. Lease terms could need periodic re-negotiation.
5. Most indicators show that baseball is declining in popularity in Japan.

Tennis or Golf Academy

Investment Opportunity: Operation and marketing of a tennis or golf academy, with celebrity endorsement. The tennis academy could be held at an existing complex or in partnership with an upcoming facility such as the County's tennis complex in Waiola, a resort's facility, or at a newly built complex. The golf academy would most likely be held at an existing resort.

Market: Different categories of Japanese tennis players, including pre-collegiate students, junior college women, young professional women, and "team building" groups of executives.

Opportunity:

1. Tennis is an increasingly popular sport in Japan. According to the Japan Tennis Association, the number of professional Japanese players has increased from about 100 in 1993 to about 300 in 1998. A 1997 survey by the Prime Minister's office also indicates growing interest, as 3.8% of Japanese (about 4.8 million people) claim to play tennis at least once a year. This is an increase from 3.2% in 1994. Also, 1.6% of Japanese (about 2 million people) regularly play tennis in a sports club. These numbers are growing.

2. Tennis appeals to young, single Japanese women, in large part because of Kimiko Date's successful professional career. In 1995, eleven Japanese women entered Wimbledon, compared with only two men. Two women were ranked in the world top twenty, while the highest ranked Japanese man, Shuzo Matsuoka, was only ranked 108. According to one source, an increasing number of housewives play tennis during the week

at their husband's weekend clubs. Finally, tennis is an exceptionable sport for feminine women and has many appealing fashion spin-offs.

3. Demographics show an "echo boom" generation of tennis players coming up in Japan who are the children of the "baby boom" generation.

4. There are already many successful tennis academies in other warm weather locations, such as Florida, southern California, and Arizona. These schools, such as the Palmer, Nick Bollettieri, Bitar, and Harry Hopman Academies in Florida have many students from Japan. The Van der Meer Tennis Center on Hilton Head Island in South Carolina has even recently opened up a program in Hachioji City, Japan.

5. The cost of these five-day programs typically run from \$800 to \$1200, including accommodations.

6. Golf is an extremely popular sport in Japan.

7. There are already a number of successful golf schools in Florida and California.

8. There is the potential to make an academy more attractive by including an English as a Second Language course, or other educational components. English is the most popular foreign language for Japanese secondary school students to study, and many would welcome the opportunity to study in the United States. This course could focus on "sports English", teaching tennis or golf oriented conversation as a way to help the player (particularly businessmen) socialize more easily in the international settings

Favorable Factors for Hawai`i:

1. Hawai`i has excellent year around weather for tennis camps. This is especially true in the arid Kona section of the Big Island.
2. Hawai`i has ample ESL teachers and programs available to twin with a tennis school.
3. Hawai`i is considered a safe place for Japanese families to send school children. Parents are familiar with the setting, and may wish to combine vacation time with all or part of their children's training period.
4. Hawai`i is a place that Japanese people love to come to and is close to Japan.
5. There are opportunities for investment in the proposed tennis complex, in Waiola (near Pearl City). The City & County of Honolulu is actively searching for private investors who are interested in sports related opportunities at Waiola. When completed, this complex will include 20 practice tennis courts, one stadium court, and four show courts with lights and bleachers. The State of Hawai`i has also shown interest in supporting such an investment.
6. Hawai`i is already known as a "golfing" destination and there are presently at least 94 golf courses in the state, many of which are presently underutilized and would be eager to rent out space to a golf academy.

Unfavorable Factors:

1. Potentially a limited number of Japanese students are interested and able to participate. There are only a few short vacation periods where it would be possible for them to come to a tennis camp.

2. Hawai`i is looked at as a vacation spot, not a place for serious study. It might be difficult to combine educational programs with the tennis academy.