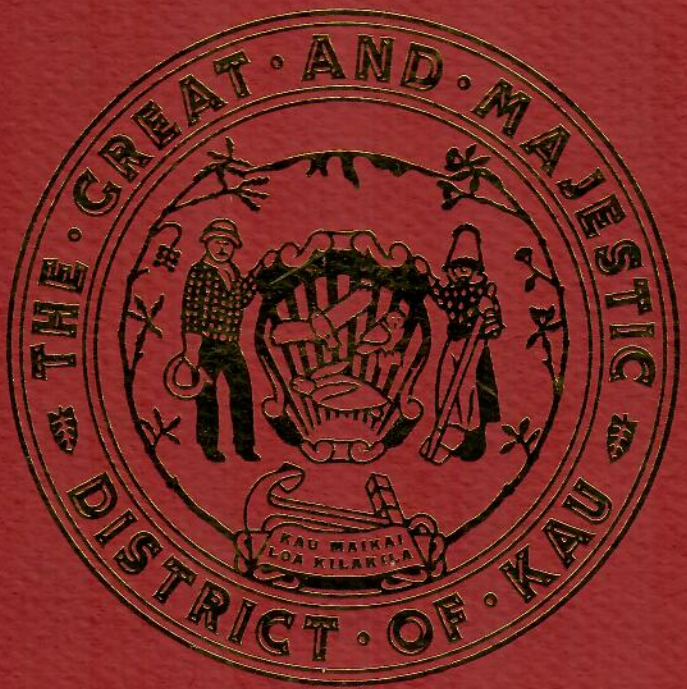
Prosperity Through Preservation in the Great and Majestic District of Ka'u

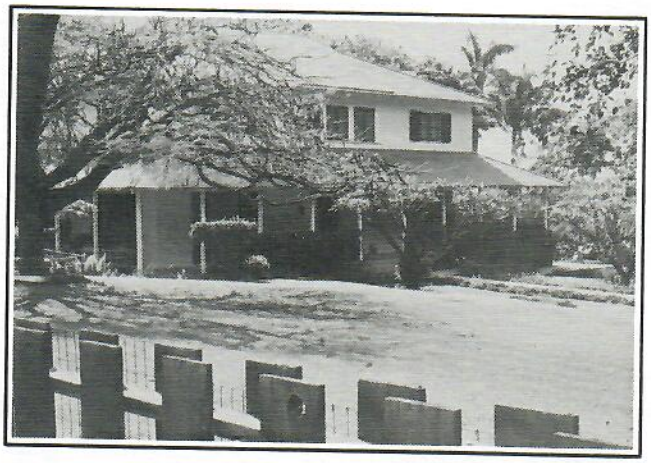


Glen M. Winterbottom

ular tourist mecca; historic cable cars not only provide visitors with basic transportation there, but constitute San Francisco's paramount tourist attraction as well.

Unique Residential Development.—In order to preserve the integrity of a grand hotel in the district of Ka'u, collateral residential development should be limited to single-family dwellings situated on estate lots containing an absolute minimum land area of one acre. Larger parcels of between five and ten acres would be preferable, and deed restrictions should prohibit resubdivision. The construction of condominiums should not be permitted under any circumstances, as they would invariably degrade the resort's unique character and scenic qualities upon which long-term financial success hinges.

The exterior design of homes and appurtenant structures must be strictly regulated in order to maintain the development's historic theme and enhance property values and salability. Lot owners should be required to submit plans to a panel of experts in period architecture and landscaping prior to undertaking any new construction or external remodeling. To insure an unparalleled level of authenticity and compatibility throughout the resort, the design of all dwellings and



PLANTATION MANAGER'S HOUSE IN PAHALA.

Hawaii State Archives

"WASHINGTON PLACE" ON THE ISLAND OF OAHU.

Yale Alumni Magazine, March 1987

AMERICA'S MOST BEAUTIFUL STREET.

commercial buildings should be based on prototypes that were actually erected in the Hawaiian Islands prior to a certain date, say 1920 or 1930. Thus, every structure built would immediately become a tourist attraction in its own right.

To further capture the charm of a bygone era, resort streets should be unusually wide and lined with shade trees and stone walls or period fencing. An accompanying photograph pictures elegant, 105-foot-wide Hillhouse Avenue on the grounds of Connecticut's Yale University; this street was not unreasonably proclaimed to be the most beautiful thoroughfare in America by renowned English author Charles Dickens in 1868.

Equestrian Emphasis.—Following the splendid example set by the Grand Hotel on Mackinac Island, Michigan, no non-emergency motor vehicles should be allowed near an upland hostelry in Ka'u. In their absence, guests would be transported about the grounds and to nearby points of interest

Farm Knowledge

by an array of horsedrawn conveyances. Also, commercial shipments to the hotel would be transferred to horsedrawn vehicles for final upslope delivery; in this manner normally mundane occurances could be transformed into exciting and informative attractions for visitors. Needless to say, the resort's stables and vehicle barns would soon become world-famous as living museums and repositories of nearly-vanished driving skills.

C. Brewer and Company's *Plans for the Future...Kau* contained an impressive proposal for the establishment of some 90 miles of horse trails between Naalehu and the Volcano area. By sharing the use of another 90 miles of "jeep trails," it was expected that horseback riders could "cover 180 miles of most scenic and interesting riding trails." The report elaborated:

> The trails are spaced to provide interesting loop trips for any time and distance, and some would utilize the old around-the-island Hawaiian trails. The trails meander in and out of the forest to many strategic scenic lookouts, around abrupt ridges, and into lush valleys. One trail would connect Honuapo and Punaluu Bays along the old government oxen road, and another joins Kawaa Bay with Hilea along tree-lined Hilea Gulch.

Farm Knowledge

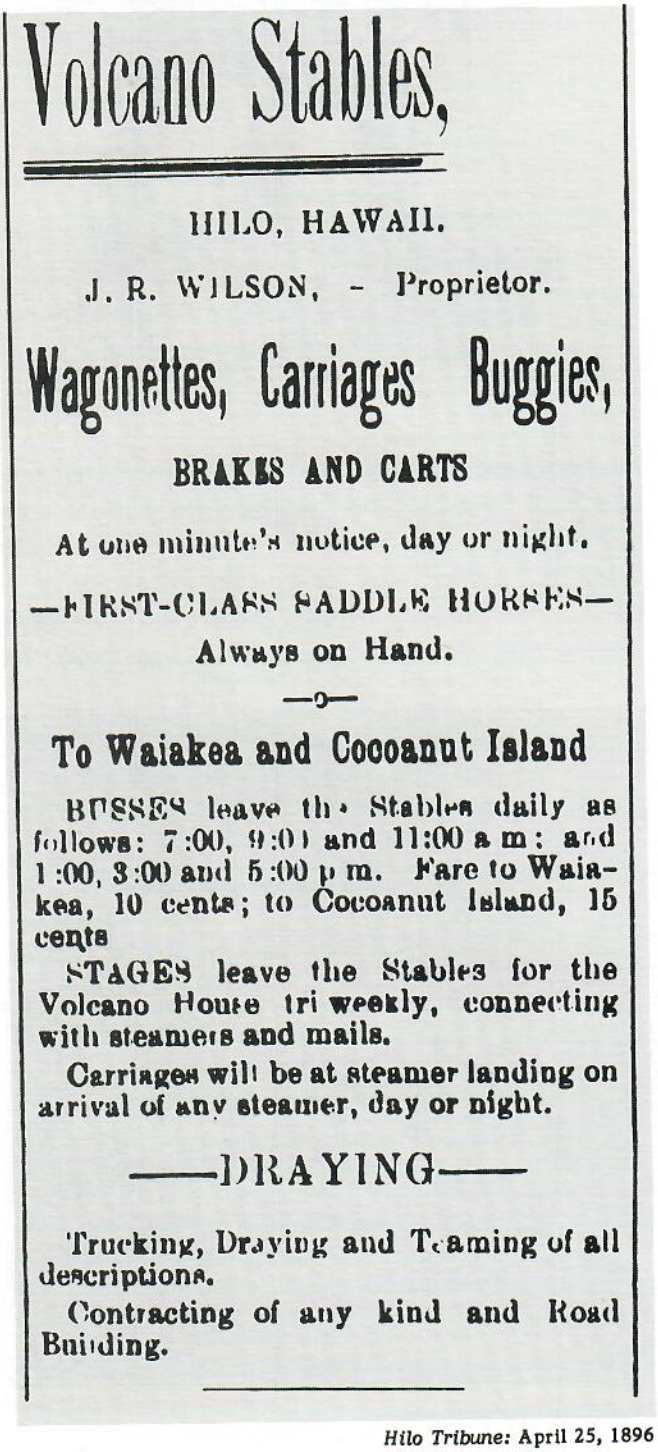
With minor modifications, the foregoing proposal would dovetail perfectly with the concept of an historic upland resort. In addition, what was originally planned as a paved "secondary road" from the Honuapo area along the coastline to Ka Lae could be

Report of the Governor, 1901

VOLCANO STAGECOACH ON IT'S WAY TO KILAUEA CRATER.

downgraded to an incredibly scenic riding trail.

Referring to estate lots suggested for Hilea, the 1962 Brewer plan stated, "Each lot would adjoin a natural bridle trail system to accomodate estate owners who desired to keep riding horses on their lots." The current popularity of upscale equestrian-oriented residential projects can be judged by the fact that 150 three to ten-acre lots were sold in the Kohala Ranch development north of Kawaihae during a twelve-month period ending in March of this year.



Volcano Stables,

HILO, HAWAII.

J. R. WILSON, - Proprietor.

Wagonettes, Carriages Buggies,

BRAKES AND CARTS

At one minute's notice, day or night.

—FIRST-CLASS SADDLE HORSES—

Always on Hand.

—o—

To Waiakea and Cocoanut Island

BUSSES leave the Stables daily as follows: 7:00, 9:00 and 11:00 a m; and 1:00, 3:00 and 5:00 p m. Fare to Waiakea, 10 cents; to Cocoanut Island, 15 cents

STAGES leave the Stables for the Volcano House tri weekly, connecting with steamers and mails.

Carriages will be at steamer landing on arrival of any steamer, day or night.

——DRAYING——

Trucking, Draying and Teaming of all descriptions.

Contracting of any kind and Road Building.

Hilo Tribune: April 25, 1896

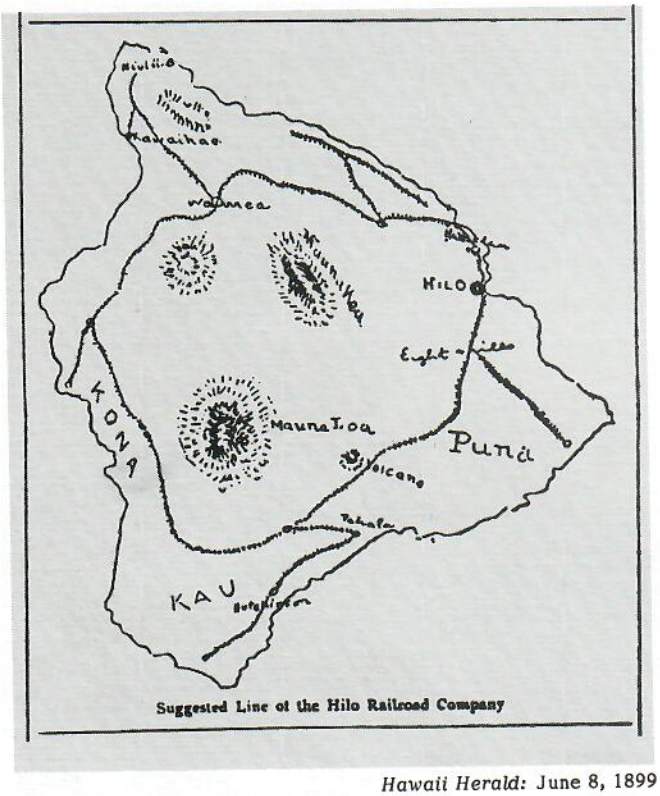
Railroad to Volcano.—The Hawaii Volcanoes National Park is undoubtedly the Big Island's foremost visitor attraction. A spectacular means by which C. Brewer and Company could capitalize on the park's proximity would be through the construction of a steam railway from its upland hotel to the vicinity of Kilauea crater. Like other elements of the proposed resort, a breathtakingly-scenic volcano railroad would quickly become world-famous.

Although the Hawaiian Islands could once boast of dozens of plantation and common-carrier railroads operating over hundreds of miles of track, today only the six-mile-long Lahaina, Kaanapali & Pacific Railroad on Maui survives. Unfortunately, this last vestige of railroading in the 50th State, which began operating in 1970 as a scenic tourist line, now passes through a landscape severely degraded by urban sprawl. Thus, aside from economic considerations, the establishment of a volcano railway would fill a glaring gap in the three-dimensional record documenting Hawaii's heritage, and would allow both state residents (many of whom have never seen an actual train, let alone ridden on one) and visitors to relive firsthand one of the most exciting chapters in island history.

There is ample historical precedence for such an undertaking. In the 1890's, some visitors to the Volcano area traveled five and one-half miles on Hawaiian Agricultural Company's railroad from Punaluu landing to Pahala, and then were driven the remaining 19 miles to their destination in carriages or stages. An around-the-island railway passing

Fred A. Stindt Collection

HAWAII CONSOLIDATED TRAIN AT A SCENIC STOP ON THE HAMAKUA COAST.



Suggested Line of the Hilo Railroad Company

Hawaii Herald: June 8, 1899

near Kilauea crater and following the route shown in the accompanying newspaper map was proposed in 1899, but never materialized. However, three years later a branch of the standard-gauge Hilo Railroad reached the town of Glenwood, 2,295 feet above Hilo and only about nine miles from the Volcano House. Due to financial constraints and improved roads, this line was never extended beyond Glenwood station; tourists completed their journey to the volcano in horsedrawn conveyances and later in motorized vehicles.

A reconstructed steam railway should accurately capture the flavor of the special excursion trains that ran periodically on the Glenwood and Hamakua divisions of the Hilo Railroad (reorganized in 1916 as the Hawaii Consolidated Railroad) during the early decades of the twentieth century. The following description of a parlor-buffet car attached to the popular *Scenic Express* which appeared in the railroad's 1921 annual report gives some insight into the elegance that pervaded

HILO RAILROAD CO.

SPECIAL EXCURSION

Laupahoehoe to Kilauea Crater

AND RETURN

November 9 and 10, 1912

NOTICE is hereby given that there will be a special excursion to the Volcano on November 9th and 10th, 1912, starting from LAUPAHOEHOE at 1:01 p. m. on Saturday, November 9th, returning Sunday evening, November 10.

The excursion rates mentioned include:

First-class Railroad Transportation to Glenwood, thence by auto to the Volcano House, thence by auto to the crater and return to the Volcano House; board and residence at the Volcano House from time of arrival until time of departure on Sunday evening; transportation by auto and train to point of starting.

There will be music and dancing at the Volcano House, on Saturday evening, for which no additional charge will be made.

Excursionists will be able to spend Saturday evening and the whole of Sunday at the Volcano House, leaving between 7 and 8 p. m. on Sunday, and arriving back at Laupahoehoe at 10:30 p. m.

The price of tickets will be as follows:

	Full Fares	Children's Fares
From LAUPAHOEHOE AND RETURN	$12.50	$7.80
From PAPAALOA " "	$12.40	$7.50
From NINOLE " "	$11.85	$6.95
From HONOHINA " "	$11.70	$6.80
From HAKALAU " "	$11.30	$6.40
From HONOMU " "	$11.05	$6.15
From PEPEEKEO " "	$10.80	$5.90
From PAPAIKOU " "	$10.40	$5.20
From HILO " "	$ 9.80	$4.90
From OLAA " "	$ 9.10	$4.55
From KEAAU " "	$ 8.90	$4.45

Fares for children as given above, apply only to children between the ages of five and twelve years.

Hilo Railroad Company,

R. W. PILLER, Supt.

Hawaii Herald: Oct. 25, 1912

sightseeing by rail in that prosperous era:

> Car No. 9, our first class passenger coach, which already had a small observation compartment, was remodeled in a most approved manner. Its floor was covered with a first class carpet and 40 commodious wicker arm chairs provided. Another feature of the car is a buffet completely equipped with crockery and cutlery sufficient to serve 30 passengers. An electric lighting system has been installed on this car. It is well patronized and management has received flattering comments on the service.

Chock Chong; Bishop Museum

AN OUTING ON THE HAWAII CONSOLIDATED RAILROAD.

H. R. Hanna; Bishop Museum

MOUNTAIN VIEW RAILROAD STATION, CIRCA 1910.

Hawaii Consolidated R'y Co., Ltd.

TIME TABLE

EFFECTIVE DECEMBER 20TH, 1915
(Subject to change without notice)
All Trains Leave and Are Due to Arrive at Hilo

HAMAKUA DIVISION

Leave				Arrive	
*	9:15	A	Paauilo, Ookala, Laupahoehoe and Way Stations	* 8:30	A
*	3:15	P		* 2:30	P
†	10:30	P		† 7:20	P
*	8:00	A	Hakalau, Pepeekeo, Papaikou and Way Stations	* 8:30	A
*	9:15	A		* 10:05	A
*	11:30	A		* 1:15	P
*	3:15	P		* 2:30	P
*	4:30	P		* 6:15	P
†	10:30	P		† 7:20	P

GLENWOOD DIVISION

S	8:50	A	Glenwood, Mt. View, Keaau and Way Stations	* 8:50	A
O	2:30	P		S 4:20	P
‡S	3:30	P			
S	8:50	A	Keaau, Olaa Mill and Way Stations	* 8:50	A
§	10:05	A		§ 11:25	A
O	2:30	P		S 4:20	P
‡S	3:30	P		† 7:10	P
†	10:30	P			

PUNA DIVISION

S	10:05	A	Pahoa and Way Stations Via Olaa	* 8:35	A
O	2:30	P		S 5:15	P
‡S	3:30	P		† 7:10	P
†	10:30	P			
S	10:05	A	Kapoho and Way Stations Via Olaa	TF 8:35	A
TF	2:30	P		S 5:15	P

*—Daily. A—Morning. S—Sunday only. O—Daily except Saturday and Sunday. †—Saturday only. P—Afternoon. ‡S—Saturday and Sunday. §—Daily except Sunday. TF—Tuesday and Friday only.

R. W. FILLER, General Superintendent
W. H. HUSSMAN, General Passenger Agent.

Hawaii Herald: March 17, 1916

Obviously, a railroad building project on the scale proposed would involve major challenges and complexities needing to be overcome. Yet the time is clearly ripe for the return of the "iron horse" to the island of Hawaii—no other endeavor has more potential to capture the world's attention and imagination.

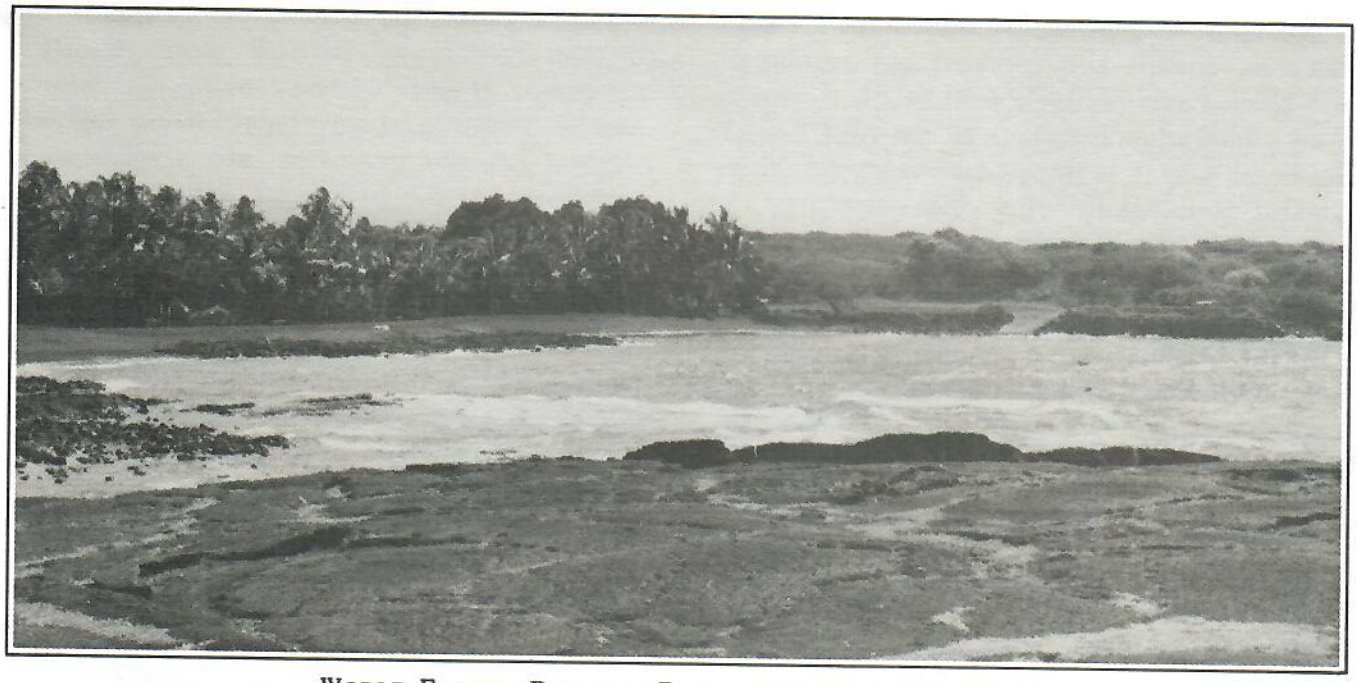
Preservation of Punaluu. Sighted from the ocean, the Ninole to Punaluu coastal plain appears as a rare break in the towering sea cliffs that dominate much of the Ka'u coastline; indeed, the area serves as the only major ocean recreational site for residents of this huge district.

From state-owned Ninole cove and springs (once a favored swimming site, but now completely filled-in by plantation runoff) on the south, the coastal plain extends northward approximately 4,000 linear feet past several oceanside ponds and a small county park to Punaluu's renowned black sand beach, tiny harbor and large adjacent pond. A truly unforgettable feature of this locality is its spectacular views of *na puu* (hills) One, Makanau, Kaiholena and Enuhe, Hawaii's answer to the mesas and buttes of the southwestern United States which have rightfully been recognized as national treasures.

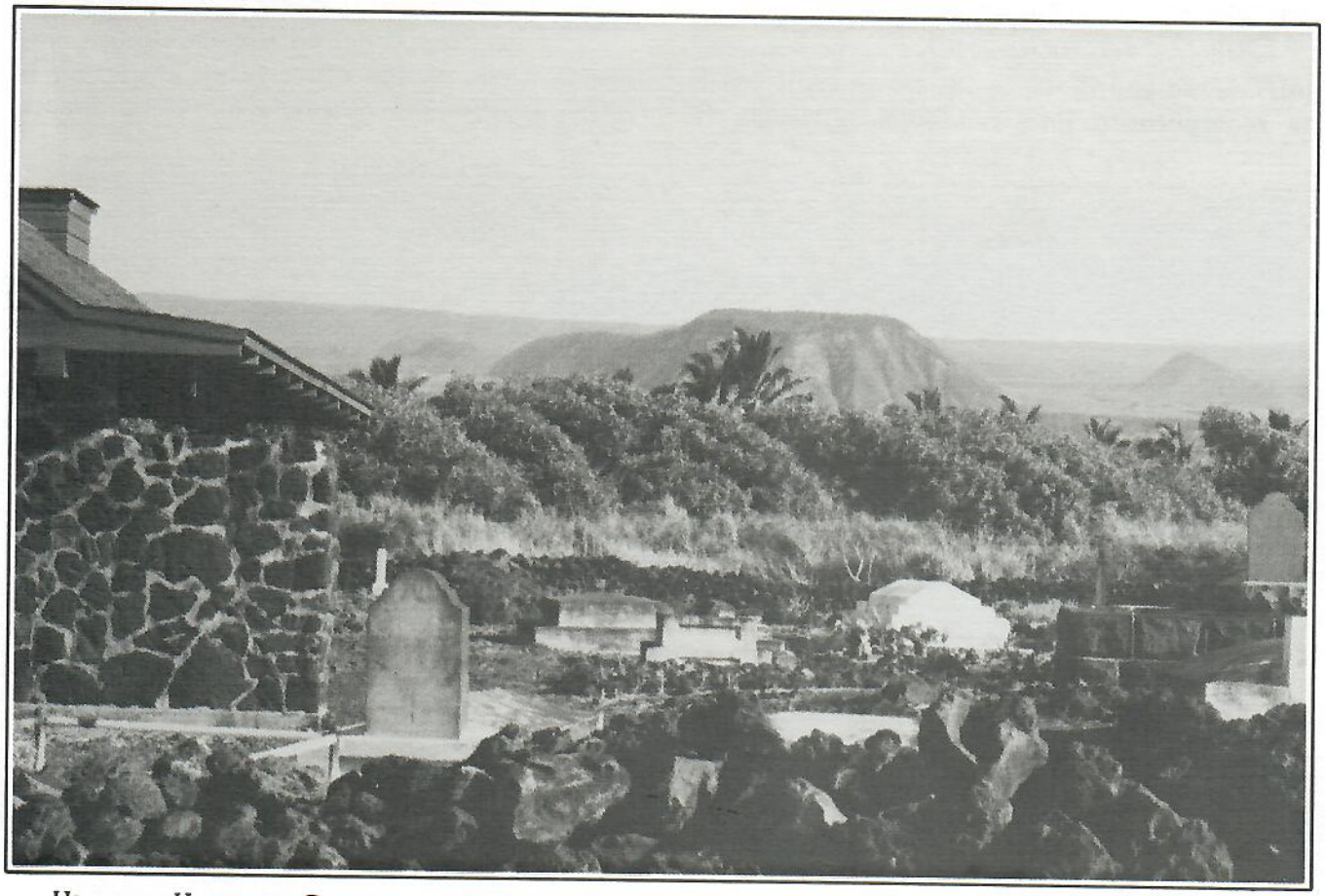
Overlooking the shoreline and acting as silent guardians are historic Hokuloa Chapel and cemetary on the 50-foot-high bluff running parallel to the coastline, and Ka'ie'ie and Punaluu Nui heiau complexes located on promontories to the immediate south and north, respectively, of the coastal plain. The Punaluu Nui compound enjoys the distinction of being the largest survivor of its kind in the State of Hawaii, and both temples are still utilized for traditional Hawaiian religious observances.

Hokuloa Chapel is dedicated to the memory of Henry Opukahaia, born nearby, who was instrumental in introducing Christianity to the Hawaiian Islands in the early 1800's. This harmonious juxtaposition of Christian and pagan landmarks offers valuable insight into Hawaii's religious heritage, and enhances the aura of timelessness and serenity that currently permeates the Punaluu area.

Most of the land at Punaluu and Ninole below Highway 11 (the Hawaii Belt Road) was designated as an urban district by the state Land Use Commission in the late 1960's. In 1972, a subsidiary of C. Brewer and Company began construction of a destination resort on the site. However, due to a series of impediments and setbacks, the only major resort components that have been completed to date are an 18-hole golf course, a restaurant near Punaluu beach and 76 condominium units situated on a bluff overlooking Ninole cove.



WORLD-FAMOUS PUNALUU BLACK SAND BEACH AND BAY.



HISTORIC HOKULOA CHAPEL AND CEMETARY AT PUNALUU, WITH *PUU* ENUHE IN THE BACKGROUND.

In view of this region's absolutely unique historic, scenic and recreational resources, and since Punaluu black sand beach is considered a likely landing place of the first Hawaiian colonists, it is imperative that the entire coastal plain, along with adjacent bluffs and *heiau* sites, be aquired by the State of Hawaii or federal government for a much-needed regional park. If funds are not available for outright purchase of the property in question, the corporate owners should be offered surplus government lands of corresponding value in exchange.

World-Class Regional Park.

Following government aquisition of the coastal portions of Punaluu and Ninole, a joint public/private plan should be formulated to develop the entire Special Management Area below Highway 11 into a world-class historical, cultural and recreational complex open to residents and visitors alike. The existing golf course and Black Sands Restaurant could be incorporated into this plan, although it would be desirable to eventually replace the present restaurant with a more dignified structure. It goes without saying that Ninole cove and springs should be returned to their original useable condition and a catchment basin constructed in Ninole gulch to prevent a recurrence of flood-borne sedimentation.

In conjunction with upland visitor accomodations, C. Brewer Properties could locate at Punaluu such recreational ammenities as an amphitheater, riding stables, a polo field, enhanced golf and tennis facilities, man-made water features, and the like. Enclosed and open-air museums chronicling the unique history and culture of the district of Ka'u would also be appropriate in this area. Limited commercial activities could be accomodated within accurately reconstructed buildings from the plantation era, such as the Hutchinson Sugar Plantation Company store, which would double as historical exhibits.

The existing Colony I condominiums near Ninole cove, on the other hand, are eyesores which would have no place in such a special

Hawaii State Archives

HUTCHINSON SUGAR PLANTATION COMPANY STORE IN NAALEHU.

Hawaii State Archives

VIEW FROM NORTH END OF PUNALUU BEACH, CIRCA 1880.

Farm Knowledge

environment. The prominent site now occupied by these tacky structures should be obtained for public use at the same time as the coastal zone—by condemnation if necessary.

Honuapo Pier Reconstruction.—A portion of tax revenues generated by an upland resort should be utilized to repair or reconstruct the former sugar pier at Honuapo, which lost its wooden deck in the 1975 *tsunami* (tidal wave). It would also be beneficial to enlarge and improve the county's adjacent Whittington Beach Park.

A renovated wharf would not only be available for public pole fishing and other recreational pursuits, but could also be used to land hotel guests via small boats from passing interisland cruise ships, ocean conditions permitting. Such a nostalgic and exotic means of reaching one's destination would probably be the high point of many a visitor's trip.

It might even prove feasible to build a small coastal steamship of the type which used to frequent these waters to shuttle more adventurous tourists between Kona ports and Honuapo.

High Standards Vital.—The success, both financial and otherwise, of the grand hotel and related projects suggested in this section would depend heavily on adherence to the highest possible standards of excellence. Only by stressing quality over quantity could the well-documented adverse effects of resort development be avoided or minimized in the district of Ka'u.

To consistently attract discriminating patrons year after year in competition with innumerable upscale resorts in this state and elsewhere, the proposed vacation retreat would have to offer such an uncompromising blend of luxury, beauty and historical authenticity as to take first-time viewers' breath away. A major goal of the undertaking should be to recapture all of the grandeur, glory and uniqueness of the Hawaiian Islands that has been lost over the years to a rising sea of blandness and mediocracy.

As stated in C. Brewer's 1962 *Plans for the Future...Kau*:

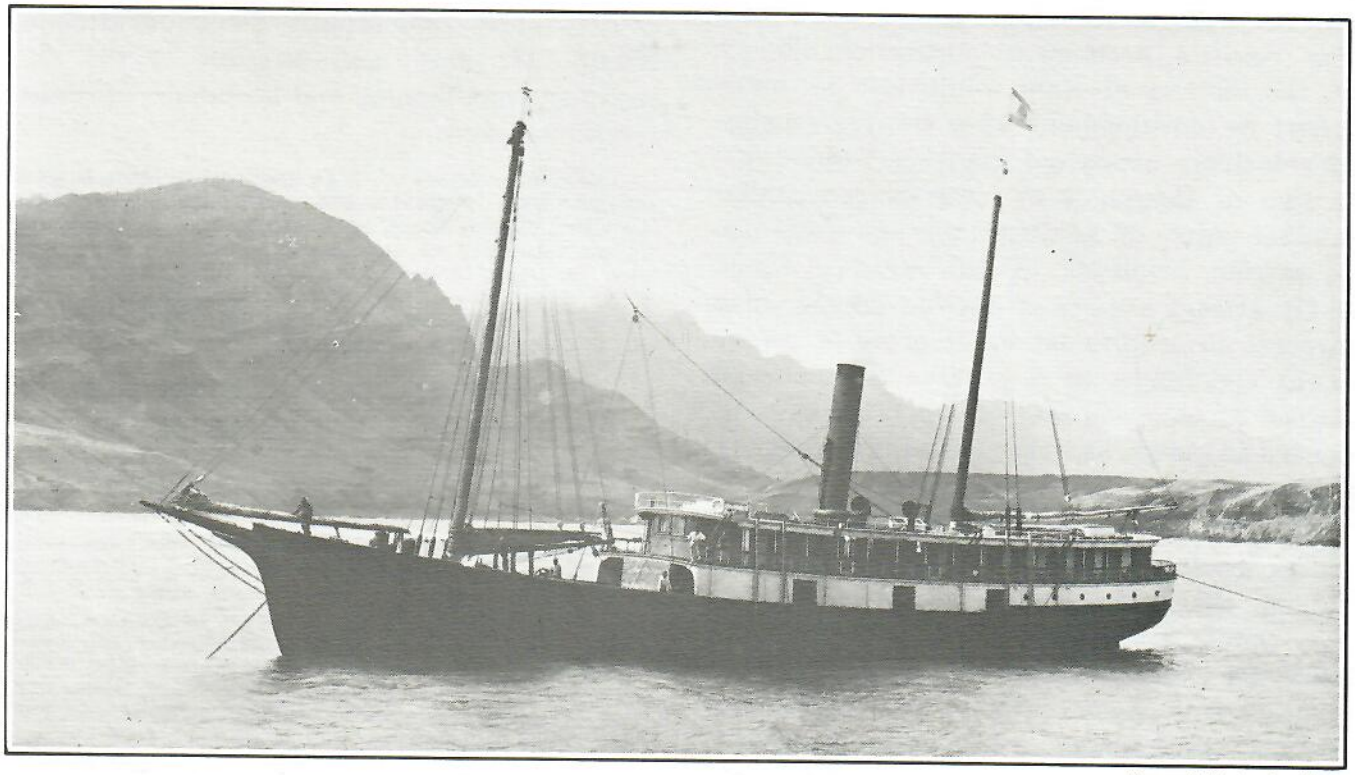
> These facilities must be designed and located on the Kau landscape with the same care of the master painter placing paints on his canvas. It can then become a unique establishment of high order the like of which is not available anywhere else. These facilities would be as charming, as pleasant, as popular as Hana; the Plantation House; Greenbrier, in West Virginia; or the Cloister, in Sea Island, Georgia; but it would be like none of these. It would have its own character, its own personality, and it would be successful because it would satisfy the human desires of the visitor.

Community Impacts.—If conscientiously developed in accordance with this outline, a luxury upland resort in the district of Ka'u would have a minimum of negative impacts on residents and the existing pristine environment, while providing the community with substantial economic benefits.

In order to preserve the majestic scenic vistas between Honuapo and Pahala, the grand hotel could probably be located so as

Hawaii State Archives

HONUAPO LANDING IN 1917.



Hawaii State Archives

A COASTAL STEAMSHIP IN HAWAIIAN WATERS.

not to be visible from the coastal region below. Strict design controls would ensure a level of compatibility between all resort-related structures and their surroundings never before attained in Hawaii.

An absolute district-wide ban on resort and residential construction within at least one mile of the coastline would guarantee that this invaluable resource is preserved for future generations of residents and visitors alike. Although resort guests and property owners would undoubtedly have an impact on shoreline areas, they could never come to dominate them as they have in other parts of this island and state. Moreover, district residents would have equal access to any recreational ammenities created within the Punaluu Special Management Area, and the entire coastal plain and adjacent bluffs there would be preserved as public parkland.

The luxury orientation of the proposed vacation retreat would allow profitability to be achieved with a smaller number of patrons than would otherwise be necessary. The resort's permanent population impact on the district of Ka'u would also be minimized by development of a limited number of relatively expensive single-family estates in lieu of thousands of lower-priced condominium units. In addition, the historical and equestrian emphasis of this project would likely attract a class of persons having some interest in traditional rural pursuits, which could contribute to a greater than normal degree of compatibility between resort residents and guests and long-time district inhabitants.

Needless to say, the resort's upscale status would result in higher wages and self-esteem for staff members, while its uncommon theme would lead to the creation of an unusually wide variety of skilled and unskilled employment opportunities. The uniqueness of this development should also provide a certain degree of immunity from downturns in visitor traffic, thus giving rise to a more stable working environment. The project's large, landscaped residential lots and elaborate homes of traditional design would require more maintenance than condominium units, thereby providing employment for adult entrepreneurs and after-school jobs for teenagers, the latter an especially critical need in Ka'u.

Possible adverse effects on the district of Ka'u which would have to be addressed prior to approval of this endeavor include increased traffic volumes, a lack of affordable housing and increased property taxes.

ECONOMIC DIVERSIFICATION.

Diversified Agriculture.—In a 1970 state agricultural development plan, Shelley M. Mark, then-director of the Department of Planning and Economic Development, declared:

> Hawaii, by reason of its geographical location, is ideal for agriculture. While it is also ideal for many other human activities, Nature herself has bestowed upon Hawaii nearly all the essentials for agricultural success. If agriculture does not expand in Hawaii and take its place as the queen of all our industries, then we have only ourselves to blame. It will be a failure of human planning, human enterprise, human intelligence and human spirit.

An interesting feature of the plan was a table listing the following "new or overlooked crops in their estimated order of importance:"

> Seeds (new types); ornamentals (new types); enzymes—bromelain, papain, and ficin; tomatoes; guava (cultivated); carob; winter vegetables; cocoa; copra and coconut oil; potatoes; guar; castor bean; dioscoreas (steroids); Chinese cassia; allspice; pepper; sweet potatoes; annatto; mint; cashew nut; kenaf; peanuts; camphor; guarana; aloe; senna; *kukui* nut oil (candlenut); lumbag; annonaceae fruits; rauwolfia; vanilla; ginger root; sopodilla; cassie (acacia farnesiana); pyrethrum; satsuma oranges; mate; cola; ginseng; coca

Crops from this list which have since been

successfully planted on a commercial scale on the Big Island include new ornamentals, tomatoes, cultivated guava and cocoa. Planting of Hawaii's and the nation's first cocoa bean farm was begun in August of 1986 on 56 acres of former Puna Sugar Company land. It was recently announced that 2,000 to 3,000 pounds of dried cocoa beans can be harvested here—in comparison with about 200 to 300 pounds in other parts of the world. In mid-1987, C. Brewer and Company broke ground for a major guava orchard on 100 acres of former cane land near Hilo, citing a "known market" for its future harvests.

If properly planned and managed, a luxury vacation retreat in eastern Ka'u could stimulate the growth of diversified agriculture in this region. As stated in the 1970 state agricultural development study:

> Viewed in this light, the visitor industry and hotel employment can be looked at as presenting opportunity for diversified agriculture. Not only will there be greater demand for farm products, but hotel workers living in a rural area can supplement their income through farming. In a number of cases, the supplement can very well be greater than hotel salaries or wages. As a matter of fact, income from the visitor industry can assist in providing the capitol base upon which risks in diversified farming projects can be undertaken.

The report expanded on the benefits of part-time farming as follows:

> The opportunity to farm part-time, thus contributing greatly to the economic and social betterment of the State, should not be overlooked. With shorter working hours and highly specialized, efficient operations, part-time farming could become a stimulating, profitable, leisure-time activity for many citizens.
>
> Public agencies should be alerted to this new opportunity. Loan programs, informational and educational programs, and land management policies should be re-evaluated to encourage healthful and profitable part-time farming.

A portion of tax revenues generated by the proposed upland resort should be utilized to fund further studies of alternate crops suitable for cultivation in this district and to facilitate the planning and development of much-needed agricultural parks here. The feasibility of constructing a large resevoir near the grand hotel to trap storm runoff for use in agricultural irrigation systems during periods of drought should also be assessed; the resevoir, in the form of a landscaped, man-made lake, could double as a scenic and recreational attraction.

In a related field, C. Brewer's 1962 *Plans for the Future...Kau* contained the following goal of creating a viable forest industry on a tract of land above Wood Valley:

> Develop a commercial timber growing area of approximately 9,500 acres, sufficient in size to support one sawmill on a perpetual yield basis, providing annually about 6,000,000 board feet of lumber for the Hawaiian market.

Aquaculture.—Regarding marketing opportunities for aquaculture industries in Hawaii, the state Department of Planning and Economic Development (DPED) stated in a report published in 1978:

> Hawaii's strategic location, between the U.S. Mainland and the Far East, provides the State with ample opportunities for developing export markets in these locations. For example, the United States' present dependence on imports suggests that Hawaii can contribute to the U.S. balance of trade through substituting cultured aquatic products for imports. As another example, in the Far East, the Japanese seafood market presents special opportunities for freshwater prawns, marine shrimp, brine shrimp, and other species. Europe, with its prosperous economies and demand for luxury seafood items, represents another important area for marketing Hawaii's aquatic products.
>
> Although the costs of land, feed, and other inputs to aquaculture production are relatively high in Hawaii, the warm, year-round growing conditions and positive effects of higher temperatures on the growth rates of most species suitable for culture enables aquafarmers in this State to compete with Mainland producers—even if the cost of transportation is taken into consideration.

The DPED study contained the following list of priority species for development:

> First priority: aquatic algae, baitfish, brine shrimp, catfish, Chinese carps and tilapia, clams, oysters, freshwater prawns, marine shrimp
>
> Second priority: threadfin (*moi*), mullet, limpet (*opihi*)
>
> Third priority: American lobster, eel, milkfish, octopus, ornamental fish, Samoan crab, scallop, trout

A map included in the report indicates that the district of Ka'u has a limited inventory of primary land suitable for aquaculture, i.e. land with less than five percent slope and having low soil permeability permitting earthen pond construction. These primary lands are located in scattered pockets near the 2,000 foot elevation between

Naalehu and Wood Valley. The largest pocket, appearing to be in excess of 400 acres, is located above Hilea.

A large proportion of Ka'u's coastal zone is classified as secondary land suitable for aquaculture, meaning that artificially sealed, lined or otherwise constructed culture units would be required. It should be noted that the Natural Energy Lab Hawaii at Keahole Point in North Kona, site of substantial aquaculture activities including the culture of abalone, marine algae and Maine lobster, is located on secondary land—lined ponds are utilized there. According to the DPED report:

> The Island of Hawaii has by far the largest amount of secondary lands. Many of these lands are currently under low-intensity use, chiefly for grazing. Some of these areas appear to be well-suited for saltwater aquaculture projects.

During 1984, the state Land Use Commission reclassified 6,000 acres of conservation land at Kapua, South Kona (near Ka'u district's western boundary), for an extensive "multi-agricultural project" to include 1,500 acres of shrimp and fish ponds near the shore. However, the Farms of Kapua venture headed by former state agriculture director John Farias ran into strong community opposition because of significant archeological remains in the area, and no aquaculture activities have been undertaken to date. According to published reports, the permitting process has recently been reactivated for part of the project.

In 1986, Cyanotech Corporation, which had begun culturing aquatic algae at the Natural Energy Lab two years earlier, proposed using the abandoned fishpond adjacent to Honuapo bay in Ka'u as the site of a similar operation; this plan did not progress beyond the idea stage.

Although aquaculture in the State of Hawaii has failed to achieve the spectacular growth once envisioned by proponents, a steady worldwide decline in marine resources portends a bright future for this industry here. Therefore, a vigorous assessment of the long-term potential for aquaculture in the district of Ka'u would certainly seem advisable at this time, so that present and future opportunities in this promising field can be identified and pursued.

High Technology.—According to the 1985 preliminary findings and recommendations of the State Plan Policy Council:

> High technology industries refer to activities involving manufactured products, research and development, and supporting products and services which are based on new or emerging technologies....
>
> Like many other states, Hawaii seeks to attract high technology companies because of the benefits provided: the promise of substantial economic growth based on exports and possibly limited import substitution, economic diversification, high-paying technical and scientific employment for Hawaii graduates (many of whom have no option but to leave the State to find work in their field), little or no pollution, and development of Hawaii's scientific community (which may help to attract other high-tech activities and research funding).

The Policy Council recognized that, "High technology companies which choose to develop or locate in Hawaii may very well do so because the owner or owners may have a strong desire to live in Hawaii and not because of comparative economic advantages." Therefore, by creating in the district of Ka'u a unique model society "where economic gains are in balance with social and physical ammenities," it might be possible to draw the attention of high technology entrepreneurs looking for an attractive locale in which to base their operations. The luxury grand hotel and related residential development would certainly tend to attract highly successful individuals with extensive connections in the worlds of finance, industry and government.

This scenario is given some credence by the example of former Boeing aerospace engineer Frank Holman who eleven years ago found in Ka'u district the perfect rural setting in which to retire and operate a small macadamia nut farm. Holman has since designed an innovative orchard watering system permitting automatic application of fertil-

izers and herbicides, as well as a more efficient means of drying his product. Moreover, it was announced in the April 8, 1988 edition of the *Hawaii Tribune-Herald* that:

> Frank and Sue Holman of Naalehu are gaining international recognition for their development of what Du Pont Co. President Edgar S. Woolard Jr. has described as an "innovation in food processing and packaging" for their Holman Macadamia-Hawaii farm on the south coast of the Big Island.
>
> The Holmans, working in conjunction with the Formex Machinery Co. and Du Pont, designed a special light-weight plastic jar for their premium macadamia nuts. Following an intensive eight-month development period, they were invited to enter the annual Du Pont Award Competition with 75 other companies from North America and Europe—emerging in this blue ribbon competition with one of the 12 awards.

Another example of semi-high technology development occurring on this island as the result of a person's relocation here may be found in the experiences of Waikoloa resident Thomas Mink. The *Honolulu Advertiser* newspaper noted on March 13, 1988 that:

> The Big Island has a new plastics manufacturing venture in production in the hills above Kawaihae Harbor.
>
> Thomas Mink of Waikoloa, who came to Hawaii to retire and a few months later decided to launch a new business instead, bought the Nylon Plastic Fastener Product line from Robroy Industries of Morristown, Pa.
>
> The Fastics Co. employs five full-time workers and several part-time specialists—one-day-a-week mechanics and computer programmers....
>
> "Plastic fasteners do not rust, do not conduct electricity and are not affected by weather," he said. It is lightweight and is shipped easily and inexpensively through such carriers as United Parcel Service and Federal Express. Mink says he can advertise second-day delivery on the Mainland....
>
> "I am not crazy about crowded places," Mink said of his move from bustling Orange County to sparsely populated South Kohala. He visited Hawaii frequently in recent years and discovered that the Big Island represented his sense of paradise.

Educational Activities.—The draft Hawaii County General Plan contains the following course of action relating to the economy of South Kohala:

> The diversity of climate, the quality of the ocean water and the natural beauty of the hills which create a back-drop for Waimea town are natural resources that have attracted scientific and educational activities and that may attract research industries to the district. These resources should be recognized as vital economic and social assets of the region and should be protected through appropriate regulations.

Despite planners' good intentions, it is

THE CHANGING FACE OF WAIMEA.

obvious that rapid urbanization now occurring in Waimea, site of two prestigeous private schools, and other parts of the district will continue to degrade the region's attractiveness.

Thus, if the district of Ka'u's comparable assets can be preserved in their present unspoiled state, it is entirely possible that Ka'u could in time become the new focus of high-quality education on the Big Island, and perhaps in the entire state as well.

Most of the raw materials necessary for unsurpassed educational experiences in a wide variety of disciplines already exist in Ka'u district—a pleasant climate, incredible scenic vistas, wide open spaces, a pristine coastal environment, hundreds of relatively undisturbed archeological sites, proximity to the Hawaii Volcanoes National Park...the list goes on and on.

The proposed luxury resort would add such desirable recreational ammenities as stables and an extensive network of riding trails, and would allow students to interact with prominent visitors from around the world. The peaceful and timeless environment of the upland retreat would be particularly conducive to education and research, and a nearby site should be reserved for the future establishment of one or more school campuses.

The Hawaiian Islands' strategic location

between the mainland United States and the countries of the Far East make this state an ideal location for the peace academy envisioned by U.S. Senator Spark M. Matsunaga, and no region here would be more appropriate for such an institution than Ka'u district.

In addition, the state House of Representatives approved during the 1988 legislative session a resolution calling for a study of the feasibility of locating another Matsunaga proposal—an international space camp—in the district of Ka'u.

Farm Knowledge

CURRENT DEVELOPMENT PROPOSALS

The needs of the local populace are routinely ignored when they clash with the plans of high-powered developers. The Brewer Hotel at Punaluu Black Sands beach is a good case in point—the community outcry at the imminent loss of their beach access resulted in a fifty pace move mauka, placing a golf hole where the buildings had been. I thought the idea for a mauka resort made sense. The tourists would be allowed to use the beach, they just wouldn't be sole proprietors.

Henry Hatcher III; *West Hawaii Today*, Oct. 16, 1987

I am writing to you to urge you to disallow the proposed project known as "Hawaiian Riviera" on grounds that it is grotesquely unsuited for the peaceful Ka'u-South Kona lifestyle, and that further it directly jeopardizes a major facet of that lifestyle, namely the fishermen.

According to the EIS, 85 percent of the 400 slip marina is earmarked for tourist fishing, that is, charter boats. I ask you to try to imagine, or to consult with someone who can imagine, the impact of 350 charter boats on the fragile fishing grounds from South Point to Milolii.

Every family in Milolii will be directly affected, and some forced to leave, if the waters from which they harvest their food are suddenly choked with outside boats, larger, faster, and more equipped than their own.

I would remind you that the state government has taken great pains, to the extent of passing legislation, to protect the ohana of Milolii and to ensure its survival.

Kawika Monfort; *Hawaii Tribune-Herald*, Nov. 16, 1987

Be it further resolved that in taking steps to become better prepared and positioned to respond to the market for launch facilities, if indeed a market develops, the Council recognizes the need to assess, at the onset, the impacts of launch activities on our social, cultural, environmental and regulatory systems as well as its impact on our existing economy including the fishing, tourism and astronomy industries, and thus stresses the need for the state to commence with the assessment of these factors as its initial focus of action.

Hawaii County Council Resolution No. 351

IV.
CURRENT DEVELOPMENT PROPOSALS.

PUNALUU RESORT EXPANSION.

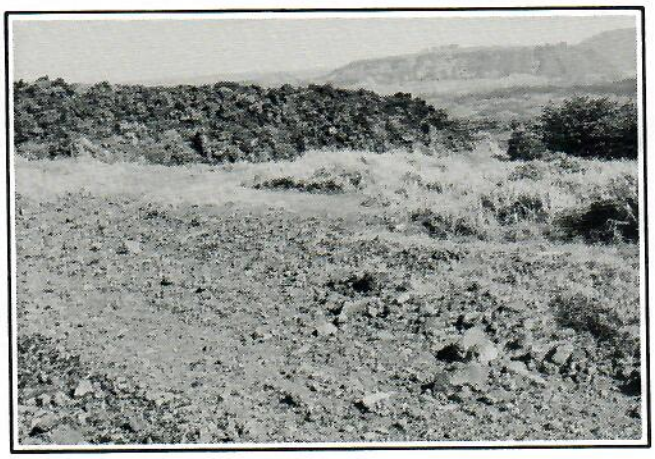
Project Description.—C. Brewer Properties is presently seeking a number of county approvals to construct in the Punaluu Special Management Area below Highway 11 two hotels containing a total of 500 to 635 rooms, and a variety of other resort facilities.

According to the revised Environmental Impact Statement (EIS) for Punaluu Resort issued in April of this year (the first EIS was withdrawn in early 1987), the proposed Punaluu Black Sand Inn to be located approximately 210 feet inland from the famous beach would consist of a number of four-story buildings erected on fill material with a final grade of 22 feet above sea level, due to possible *tsunami* innundation. The planned Village Hotel would be situated about 450 feet from the shore on the bluff overlooking Punaluu bay and would also be four stories in height. Integrated with this hotel would be Punaluu Village, comprised of 200 to 400 hotel/condominium units and approximately 65,000 square feet of commercial space in multi-story structures surrounding a man-made water feature.

Completing the proposed resort expansion would be a private club next to Ninole cove, 1,240 to 1,868 multi-family condominium units occupying about 123 acres of land above and below the Hawaii Belt Road (including 60 to 90 units in three-story buildings on the coastal plain near Ninole cove), and 70 to 80 single-family residential lots above Highway 11.

Unlike the first EIS, the revised document does not commit the developer to restore Ninole cove and springs, even though much of the rubble now filling this once-popular state recreational site can be traced to upland cane fields owned by a C. Brewer and Company subsidiary.

Project Impacts.—Major concerns that have been raised about this project to



PLANTATION RUNOFF COVERING NINOLE SPRINGS.

date include the potential for massive overcrowding of tiny, 800-foot-long Punaluu black sand beach, the only easily accessible swimming site in the entire district of Ka'u. C. Brewer Properties' consultant has acknowledged that "the coastal use survey included in the Draft EIS addresses the limited capacity of Punaluu Beach due to 'lava bedrock and lava boulders exposed at the water's edge along most of the beach creating poor swimming conditions,'" and "the likelihood that the great majority of the guests occupying the resort's planned hotel units would spend some time at Punalu'u Black Sand Beach." The developer's aforementioned coastal use survey also noted that currently, "The entire beach and backshore appears crowded with people and vehicles."

Quite obviously, the placement of four-story hotel and condominium structures on the seaward portion of the bluff parallelling Punaluu's shoreline would severely degrade spectacular mountain views from the county park and coastal plain below. The planned inn adjacent to Punaluu beach, the equivalent of at least five stories in height due to its construction atop fill material, and the multi-story condominium clusters to be located near Ninole cove would devastate presently unspoiled coastal vistas as well.

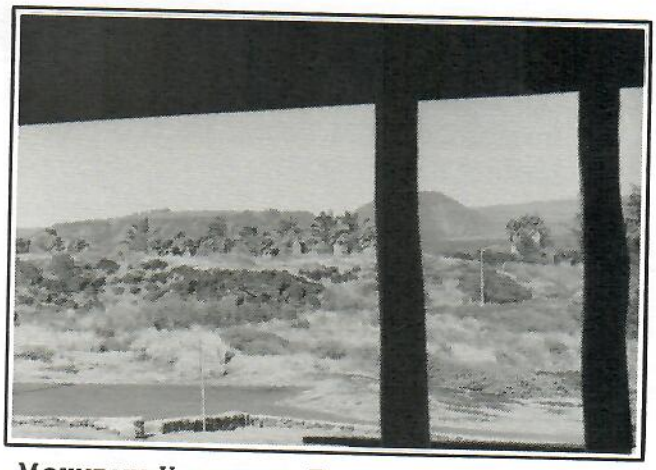
Concerning historic Hokuloa Chapel and cemetary on the bluff which would be surrounded on three sides by, and incorporated into, the proposed Punaluu Village, Henry K. Boshard of Mokuaikaua Church in Kona commented in the EIS:

> Let me say that to all of us who were raised in that area and have been a part of the church's life and ministry for many years, that the church and cemetary are still being actively used. Whatever is being planned for the area should have due consideration for us, and not just dismiss us into oblivion, just because C. Brewer owns the bulk of the land in that area. In other words, we need some help from our county officials by reasonably protecting some of the beauty and distinctive environmental and cultural locations. Please remember that most of the people in Kau make use of Punaluu Beach and regard the area's history and culture with much *aloha*.

The coastal use survey commissioned by C. Brewer Properties recognized that, "Many of the [Ka'u] residents interviewed said that they visit Punalu'u Beach Park after work to simply get away and relax for awhile," and that, "The beach park, in conjunction with the adjacent beach, the nearby boat ramp, and the adjoining rocky shoreline, is a primary site for a wide variety of local ocean recreational activities." Moreover, the developer's consultant has admitted that, "As noted, Punalu'u Village to be located on the bluff in addition to the adjacent two proposed hotels will detract from the 'getting away from it all' experience now enjoyed by campers and coastline users."

The possible danger posed to Punaluu's fragile coastal ecosystem by a projected 2,500 to 4,000 percent increase in the use

WARNING SIGNS AT PUNALUU BEACH.



MOUNTAIN VIEW FROM PUNALUU COUNTY PARK.

UNIQUE MOUNTAIN VIEW FROM NINOLE AREA.

of treated sewage for golf course irrigation is listed as an unresolved issue in the revised EIS for Punaluu Resort. Brewer's consultant has agreed that, "Punalu'u Harbor is a favored feeding and resting area for threatened green sea turtles and a feeding, resting, breeding and nesting area for endangered Hawaiian hawksbill turtles."

In regards to the economic feasibility of the proposed project, Roger A. Ulveling, Director of the state Department of Business and Economic Development, cautioned in the EIS:

> Based on the market analysis, we question the immediate demand for additional hotel units on the island. The final Environmental Impact Statement (EIS) should address this issue in more detail. We point out that there are substantial acreages of land on the island which have the potential for resort development and, similar to Punalu'u, these lands are already in the urban land use district. The development potential far exceeds the projected inventory of hotel rooms listed on Page II-38 of the draft EIS. On the assumption that the demand for such units is limited, the factors which make the subject Punalu'u project more desirable and achievable should be identified.

A plethora of additional concerns relating to shoreline access, use of the Brewer-owned boat ramp at Punaluu bay, archeological sites, native Hawaiian rights, socio-economic impacts, natural hazards and neglected alternatives have also been raised during the permitting process.

Recommendations.—During a three-month period, over 3,000 signatures of Big Island residents and visitors to Punaluu were gathered on a petition circulated by the Punaluu Preservation Committee calling on C. Brewer Properties to "consider alternative, less-sensitive sites in Ka'u for a quality development that will accurately reflect the history, culture and needs of this region." Foreign countries represented by signatories to this petition included Australia, Austria, Denmark, New Zealand, Sweden, Switzerland and West Germany.

In a December 28, 1986 letter to the *Hawaii Tribune-Herald* regarding the proposed resort expansion, Pahala resident June Domondon concluded:

> The Developer owns 36,000 acres of land in the District of Ka'u—surely there must be an alternative hotel site among all that land that could be developed, instead of taking away from residents the only major ocean recreational site in the entire district.

The author of this volume summed up his comments to the revised Punaluu Resort EIS with the following remarks:

> The Punaluu area's fragile assets, such as sweeping mountain and coastal vistas, significant historical and archeological sites including the state's largest surviving heiau complex, and the only easily-accessible swimming beach and finest thrownetting site in all of Ka'u, should make it unthinkable that this truly unique remnant of Old Hawaii be allowed to degenerate into a sprawling Waikiki-style mini-city.
>
> Moreover, overdevelopment of Punaluu/Ninole, renowned throughout the world for its unspoiled beauty and serenity, could irreparably damage the long-term prospects for quality tourism in the district of Ka'u, while creation of a world-class historical, cultural and recreational complex on the site would serve to strengthen the visitor industry

islandwide.

Few would downplay the many contributions that C. Brewer & Co., Ltd. has made to the betterment of this district over the past century. It would be a true shame if this legacy of mutual benefit were to be tarnished so unnecessarily at this late date.

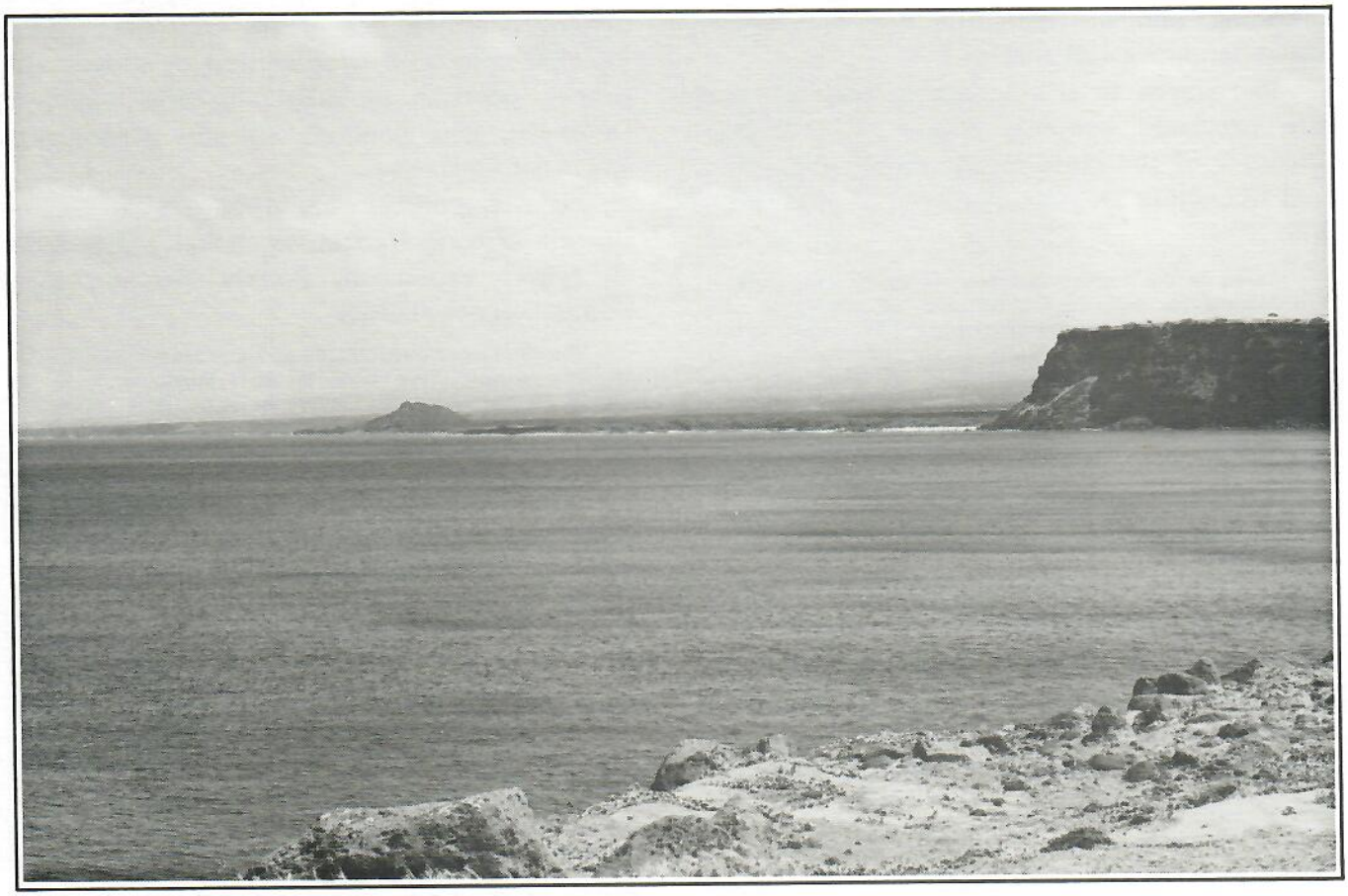
Therefore, C. Brewer Properties, Inc. should be strongly encouraged to relocate its proposed resort to a less-sensitive site in Ka'u, so that the splendor and majesty of Punaluu may be preserved undiminished for future generations of residents and visitors alike.

HAWAIIAN RIVIERA RESORT.

Project Description.—The proposed Hawaiian Riviera Resort would be located within a 20,616-acre parcel of land situated between the Hawaii Belt Road and Kahuku coastline near the existing Hawaiian Ranchos subdivision in southwest Ka'u. It was stated in the EIS issued for this project in December of 1987 that:

> The proposed project is being master planned through the joint efforts of the Palace Development Corporation and the Hawaii Ka'u Aina Partnership, and contains two separate but contiguous developments; the Hawaiian Palace Resort and the Hawaii Ka'u Aina Resort. Collectively, the two components, along with their common facilities, which include the 800 acre support community and 100 acre regional airport, will be known as the Hawaiian Riviera Resort.

Upon completion, the Hawaiian Palace Resort to be located on 784 acres at the western end of the 2,344-acre resort area would feature two luxury hotels with 1,275 rooms, a 400-slip marina "cut into the coastal lava cliffs," a "European-style marina village," an 18-hole golf course and 952 residential units. The eastern 1,560-acre Hawaii



VIEW OF THE MAGNIFICENT KA'U COASTLINE LOOKING WEST FROM KA LAE.

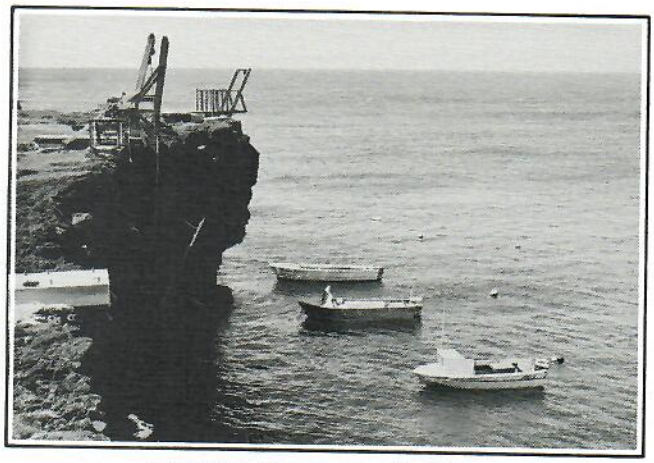
Ka'u Aina Resort would consist of three hotels with 1,200 rooms, two 18-hole golf courses and 500 residential units.

The combined resort facilities would front on approximately three miles of presently undeveloped coastline with Pohue bay at its center, while the proposed support community would be located some four miles away in the northeastern corner of the property adjacent to Highway 11 and Kahuku Ranch headquarters. According to the developers' EIS, the regional airport would be situated between the resort area and support community, and eighteen miles of private roadway would interconnect the various Hawaiian Riviera Resort components.

Project Impacts.—Given that most of the "two hundred ninety-eight archeological sites containing 1,144 component features" within the proposed project area are believed by the developers' consultant "to be prehistoric, possibly between fifth and fourteenth century ages," the cultural and visual ramifications of destroying some sites and incorporating the remainder into a major destination resort are an important concern. In an article datelined Pohue bay, which appeared in the *Honolulu Advertiser* on July 26, 1973, columnist and William Ellis II Expedition member Bob Krauss declared:

> Yet, there is a magnificence about this back end of the island—a grandeur that makes us pause, sweat stained and weary, to admire what so few people have seen. We've decided to call this deserted, desolate end of Hawaii, between Milolii and South Point, Ellis in Wonderland. Here's why: every time we stop to rest on a piece of high ground with a spectacular view and a nice breeze, we find that some old Hawaiian was there before us. We'll be sitting on an old house site. Its like hiking in a living museum....
>
> Of any place I have been in the world, this deserted coast has brought me closest to the basic forces of nature.

A disturbing number of references are made in the Hawaiian Riviera Resort EIS to a perceived ongoing decrease in Ka'u's nearshore fishery resources in the vicinity of the proposed project as the result of increased fishing activity. An article in the June 1988 issue of *Honolulu* magazine discussed "the severe decline (and in some cases the collapse) of Hawaii's nearshore fisheries," and mentioned "the steady decline in catch rates since 1900 of every Hawaii reef fish with commercial value."

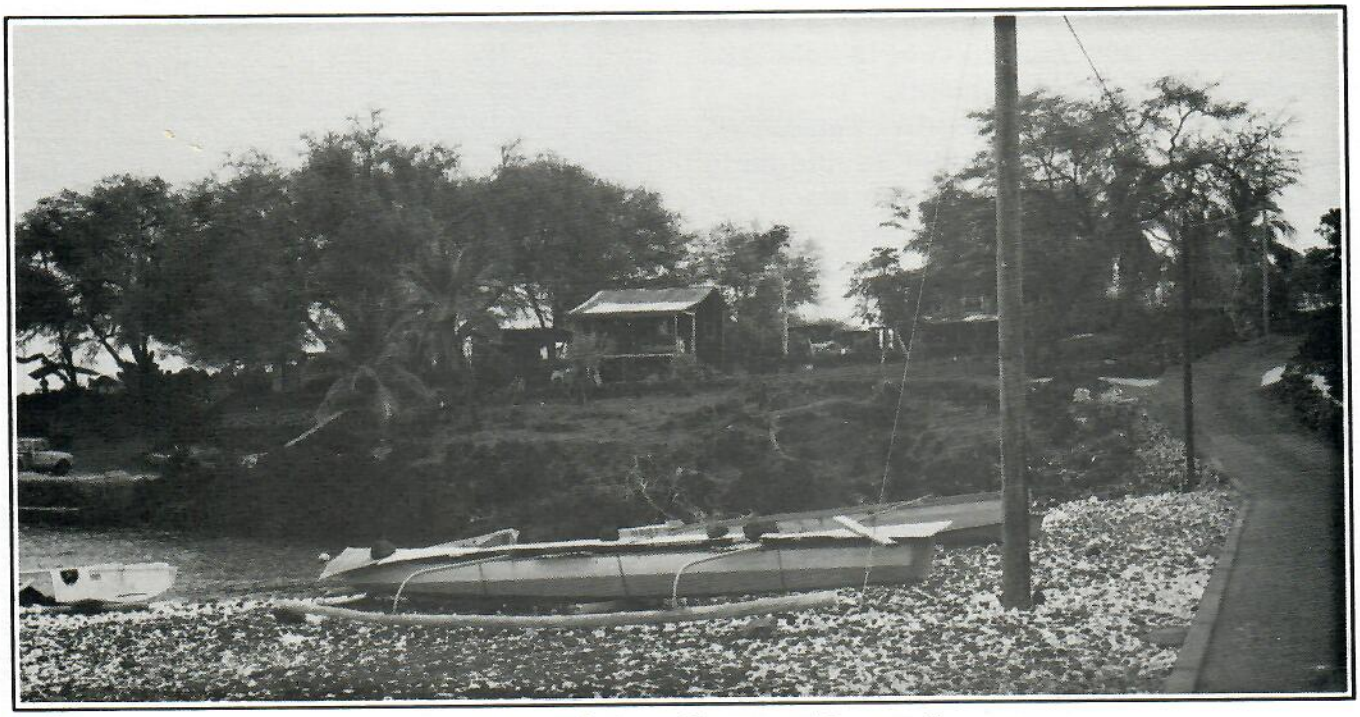


FISHING BOATS AT KA LAE.

Thus, the effect that construction of a 400-slip marina in Kahuku would have on fishing in nearby waters is not hard to predict—the possibly already diminished supply of fish would decline due to pressure from new boats attracted to the area, perhaps enough to threaten the livelihood of Ka'u and South Kona fishermen. It should be noted that Milolii, located approximately fifteen miles up the leeward coast in South Kona district, is generally considered to be the state's last surviving Hawaiian fishing village.

The comments of persons interviewed as part of the developers' social impact assessment clearly indicate that the shoreline abutting the planned resort site is already utilized by Ka'u residents and others for a wide variety of subsistence and recreational pursuits. Obviously, opening up this region to uncontrolled access by literally thousands of resort visitors, residents and employees would result in severe degradation of the attributes that current area users value highly. As acknowledged in the EIS:

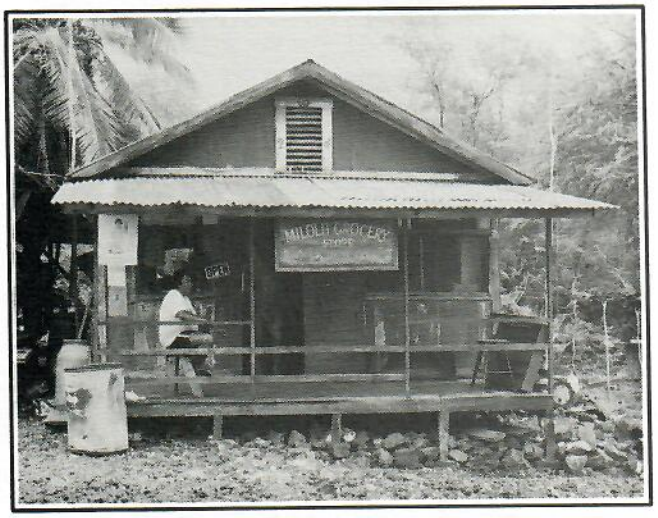
> To maintain a sense of privacy and isolation, many people are choosing out-of-the-way places where a four-wheel drive vehicle is needed to maneuver rugged terrain,



MILOLII, THE STATE'S LAST HAWAIIAN FISHING VILLAGE.

and where there are no support facilities. To some even these spots are becoming crowded.

A number of potentially adverse socio-economic impacts of the proposed resort—extensive employee in-migration, off-site population growth, the need for additional public services and facilities, and increased traffic volumes—are listed in the Hawaiian Riviera Resort EIS as unresolved issues. The developers predict that of the 2,300 on-site employees required for the project's 1992 initial operations, "about three-quarters would be in-migrant..."



TINY MILOLII GROCERY STORE.

The EIS noted that, "Unless public-private cooperation produces substantially more affordable homes in West Hawaii, workers there will have to commute greater distances from locations (as in the study area) where affordably priced housing is available." Therefore, it is likely that a substantial resort-generated increase in the prices of substandard subdivision properties in the western portion of Ka'u district, as the result of speculation if for no other reason, would serve to deprive West Hawaii residents and others of their only remaining opportunity to obtain low-cost land and housing on this side of the island.

The April 1988 issue of *Hawaii Business* magazine featured an article entitled "Too much, too soon," which examined some of the dislocations caused by similar large-scale resort development in the districts of North Kona and South Kohala:

West Hawaii residents have already witnessed housing

NO ROCKETS

ON HAWAII

rental hikes of as much as 100 percent over the past 12 months, as the Hyatt's 800 well-paid construction workers jockeyed for available rental units. County housing officials worry that employees will find little affordable housing on the market once the hotel comes on line. Some in the visitor industry fret that the demand for such large numbers of workers will inevitably mean an importation of employees from the Mainland, perhaps leading to a loss of the "*aloha* spirit" at Island resorts. And employers throughout the state are wondering how much of their current staff will be wooed away to work on the burgeoning Kona-Kohala coastline.

The developers' Geological Investigation, conducted by the firm of Dames and Moore and appended to the Hawaiian Riviera Resort EIS, disclosed possible risks to the proposed development from lava flows, movement of existing ground cracks, seismic activity, *tsunami* innundation and storm waves. Regarding lava flow hazards, the geologists reported that:

> There have been seven historic eruptions recorded along the Southwest Rift Zone of Mauna Loa. Two of these historic lava flows are located on or near the Ka'u Aina site.... Due to the steepness of the terrain, the great volume of lava which erupted from the vents, and the relatively short distance to the sea, the [1887] flow reached the sea within one day....
>
> The Island of Hawaii is divided into nine hazard zones, with Zone 1 having the highest lava flow risk and Zone 9 having the lowest risk. The proposed site is located in Zone 2. By comparison, the primary population centers, Hilo and Kailua-Kona, are located in risk Zones 3 and 4 respectively....
>
> Given that two historic (1887 and 1907) *a'a* lava flows had reached the site and that there have been seven (7) historic eruptions recorded along the Southwest Rift Zone of Mauna Loa, it is likely that there will be more eruptions along this rift in the future. The possibility of a lava flow entering this 5-mile-wide site exists.

According to the U.S. Geological Survey, "Avoidance through land use zoning and evacuation is virtually the only way to reduce losses from lava flows." An accompanying aerial photograph shows the awesome advance of a 50-foot-high, 1,500-foot-wide lava flow towards the coastal village of Hoopuloa (about fifteen miles from the planned resort) in 1926; Hoopuloa was subsequently obliterated by this flow.

The potential safety hazards of locating a marina at the proposed Hawaiian Riviera Resort were mentioned in a letter reproduced in the EIS from Doyle E. Gates, Administrator of the National Marine Fisheries Service:

> In addition, we feel the practicality of a marina in this area should be further assessed. The waters along the Kona Coast between Kauna Point and South Point are not typical "Kona" or lee waters such as found further north along this coast. During tradewind conditions the waters off the proposed resort become quite rough and potentially dangerous for small craft.

Other questions raised about the planned resort concern noise impacts of the airport, possible anchialine pond degradation, the marina's impact on humpback whale and sea turtle habitats, and the availability of adequate water to supply the development.

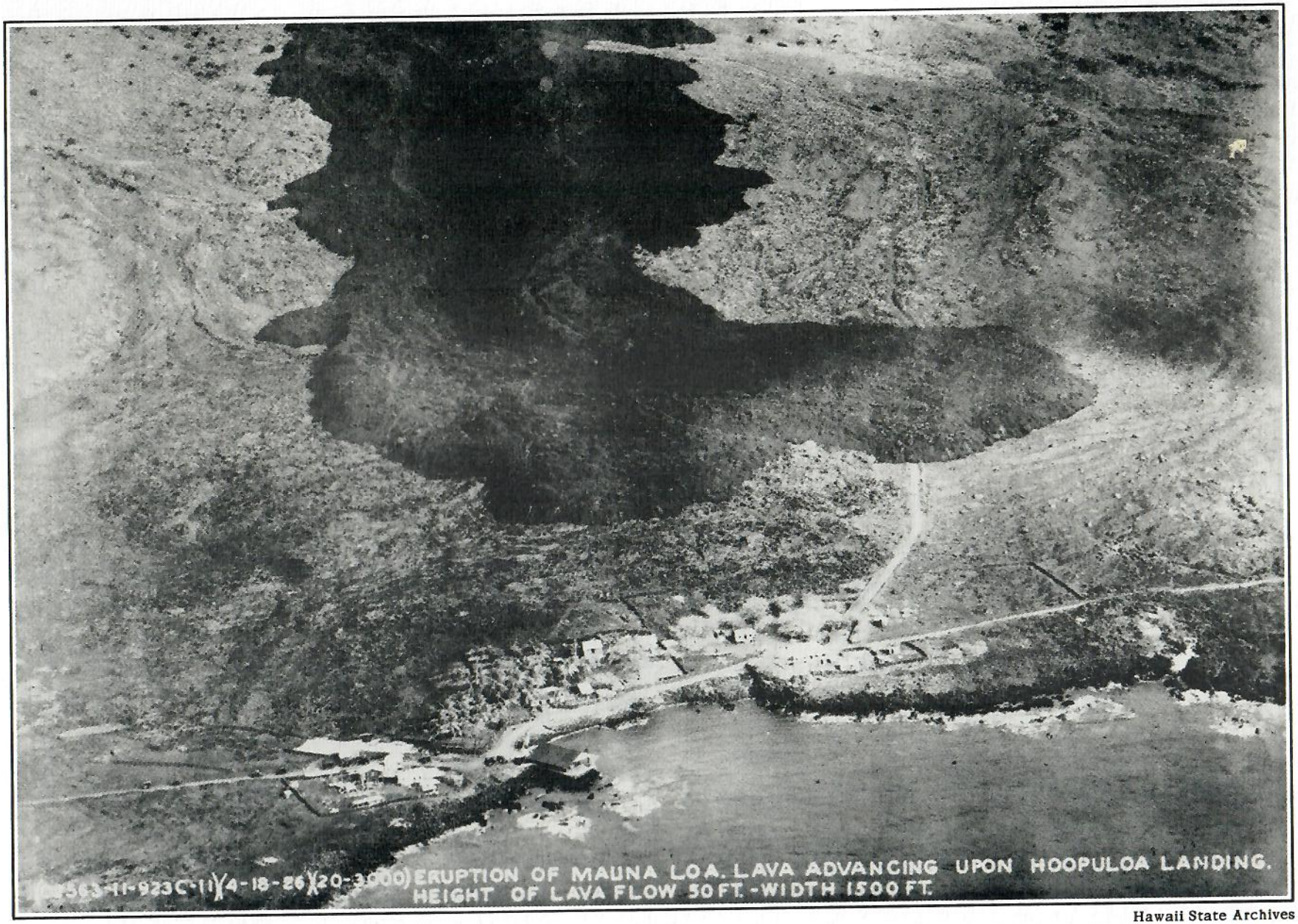
Recommendations.—Approving the construction of a project as massive as the proposed Hawaiian Riviera Resort along the isolated and hazard-prone Kahuku coastline would be foolhardy at this time, in view of a looming shortage of hotel workers, the inability of county and state agencies to keep pace with infrastructure needs in existing West Hawaii resort areas, and a host of other concerns.

Ideally, the property in question should be obtained by a government entity or private organization, such as the Nature Conservancy of Hawaii, for a wilderness park to accomodate the future recreational needs of the Big Island's expanding population.

The possibility of the inland grand hotel and related projects suggested in this book being developed as a joint venture between the principals of the proposed Hawaiian Riviera Resort and financially strapped C. Brewer and Company is certainly worthy of consideration.

ROCKET LAUNCHING FACILITY.

Project Description.—A commercial satellite launching facility was first



Hawaii State Archives

LAVA FLOW FROM MAUNA LOA ADVANCING ON HOOPULOA VILLAGE IN SOUTH KONA, APRIL 18, 1926.

proposed for the district of Ka'u in 1982 by Space Services, Inc., a Texas-based firm. The company's plans for a rocket pad on Hawaiian Homes land near Ka Lae were eventually abandoned, however, due to strong community opposition.

Establishment of a launching site in Ka'u was given renewed impetus by C. Brewer Chairman and President J.W.A. "Doc" Buyers's surprise 1986 offer to donate up to 500 acres of oceanfront land at Kahilipali point, four miles south of Naalehu, to the U.S. Government or any public or private group willing to build such a facility. In January of 1987, Governor-elect John Waihee endorsed the concept of a space launch operation on the Big Island, and two months later the Massachusetts-based international consulting firm of Arthur D. Little, Inc. (ADL) was engaged by the state Department of Business and Economic Development to evaluate statewide potential for space-related development.

Eight geographic areas in the State of Hawaii were considered as candidate locations for launch-related activities in the $300,000 ADL report, issued in late August, as were Palmyra Island and the generic concept of an offshore platform. The study concluded that:

> The southern portion of the Ka'u district of the Big Island, in an area north-northeast from the southern end to the boundary of Volcanoes National Park at Palima Point, is the preferred location for launch facilities among those considered....
>
> The western region of Kauai [Barking Sands area] might be a suitable location for selected opportunities, principally limited to sounding rockets by commercial or civilian users. An important issue to be addressed here will be access to the Pacific Missile Range Facility or adjacent lands.

The consulting firm was again contracted by the state in early December, this time to select a specific primary and alternate site for a launch facility on the island of Hawaii. The three general locales selected by state planners for further survey were the Ka'u coast from Ka Lae to the national park's southern boundary, the Kumukahi cape region about 25 miles southeast of Hilo, and the northern portion of the island from Upolu point to Laupahoehoe. Surprisingly, the latter two areas were not even listed as feasible locations in the original ADL report.

On February 22, 1988, ADL released draft findings recommending an 11,000-acre site at Palima point in Ka'u district, approximately three miles southeast of Pahala, as the best locality for a commercial satellite launching operation; the Kahilipali point area was identified as the most favorable alternative site.

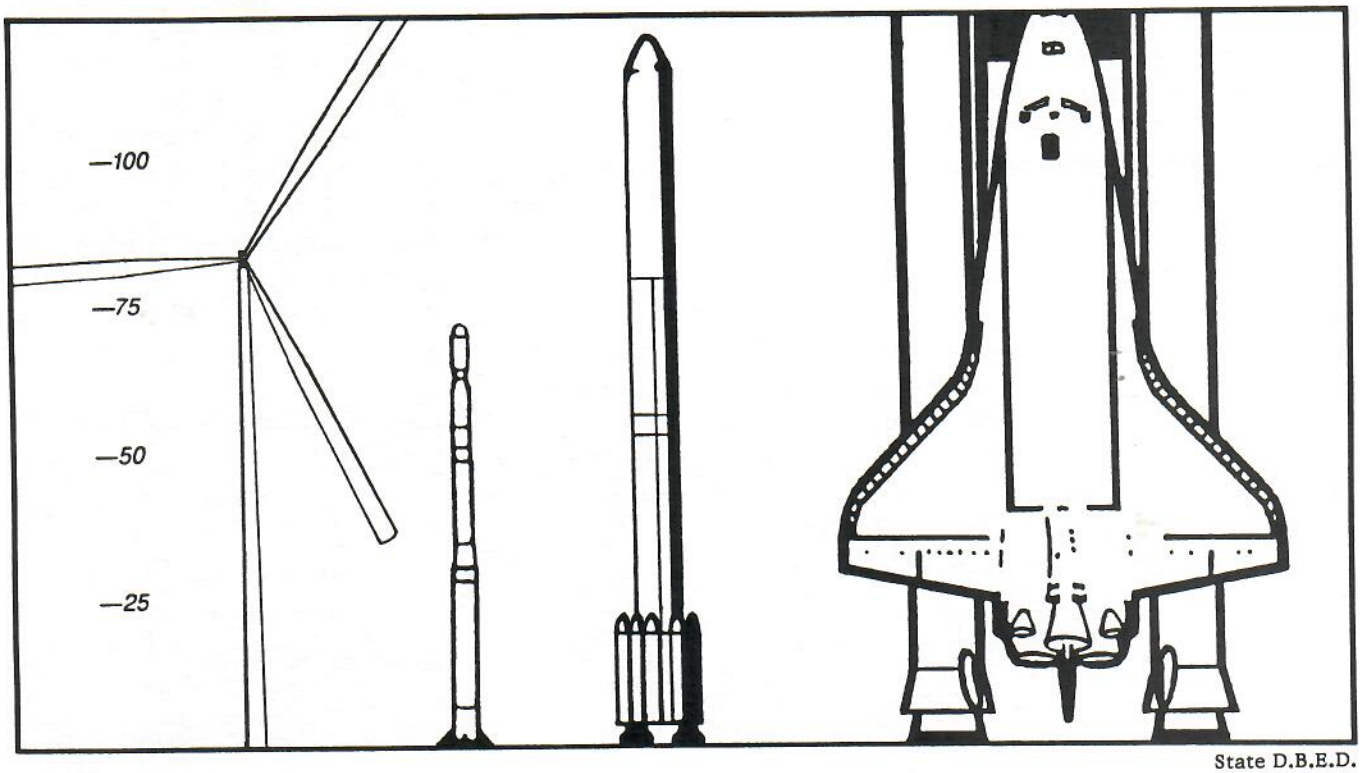
The 1988 Hawaii Legislature subsequently appropriated $1,539,230 for the preparation of an EIS and related studies on the possible establishment of launch facilities at the selected locations. Legislators specified that:

> The impact statement shall separately analyze and distinguish among small (Scout-class), medium (Delta-class), and large (Titan-class) rockets and among types of propellants used. The EIS shall not consider activities involving any payload which uses radioactive material as a power source or activities related to military weapons payloads, military weapons research, or SDI, as it is the intent of the legislature that no such payloads or activities will be launched from, or take place at, the site.

As presently envisioned by state officials, a launch complex at Palima point would consist of four rocket pads constructed about 1,500 feet from the shoreline, control facilities and two tracking stations located further inland, and a system of roads connecting the various facility components with Highway 11 below Pahala. The initial ADL study also suggested that:

> Beyond these basic infrastructure systems, a space transportation center might eventually include additional infrastructure systems depending on the requirements of the particular ELVs [expendable launch vehicles] operated there, the center's capacity, and the launch rate. These would include an air strip (runway, hangers, aviation fuel storage and handling facilities, and control tower) to receive ELV segments and payloads from off-island manufacturers as well as to handle general aviation traffic generated by activities at the center....
>
> In addition to the individual launch sites and "industrial" clusters, it is possible that, either at the outset or at some point later, ELV manufacture could occur at the launch site.

It is expected that private industry would build and operate the actual complex, with the state providing such supportive infrastructure as power, water and site access. A safety zone with a 2.9-mile radius, from



State D.B.E.D.

HEIGHT COMPARISON BETWEEN KA'U WINDMILL AND SCOUT, DELTA AND SHUTTLE ROCKETS.
Titan rocket (not shown) is about 180 feet tall.

which the public would be excluded during launches, would surround the rocket pads.

Project Impacts.—A detailed quantification of the likely impacts of a space transportation center in the district of Ka'u is necessarily difficult at this time, due to the conceptual nature of the project and the large number of variables involved.

Probably the greatest area of public concern at present is the proximity of the proposed primary and alternate launch sites to established residential communities, Pahala and Naalehu respectively. Pahala currently has a population of some 1,619 persons, while Naalehu residents number about 1,168. Ironically, the existing structure closest to Palima point is the state-run Ka'u Hospital in lower Pahala.

Such concerns have been fueled by a series of well-publicized mishaps involving space launch vehicles. On January 28, 1986, the NASA space shuttle *Challenger* exploded and crashed into the sea shortly after liftoff, killing its entire crew including Hawaii-born astronaut Ellison Onizuka. Close on the heels of the *Challenger* disaster came the April explosion of an Air Force Titan 34D rocket and the failure of a NASA Delta rocket in May. In March of 1987, NASA suffered yet another major setback when an Atlas-Centaur rocket and satellite combination went out of control 51 seconds after blastoff and was purposely destroyed at 14,000 feet. The following June, three small NASA sounding rockets were accidentally ignited by lightning on the launch pad at Wallops Island, Virginia and shot into the ocean.

The United States did not have a monopoly on launch failures during this period. In May of 1986, an Ariane rocket and satellite launched from French Guiana had to be destroyed when its third stage failed to ignite. Subsequently, the Soviet Union reported two

back-to-back rocket explosions under its new policy of openness.

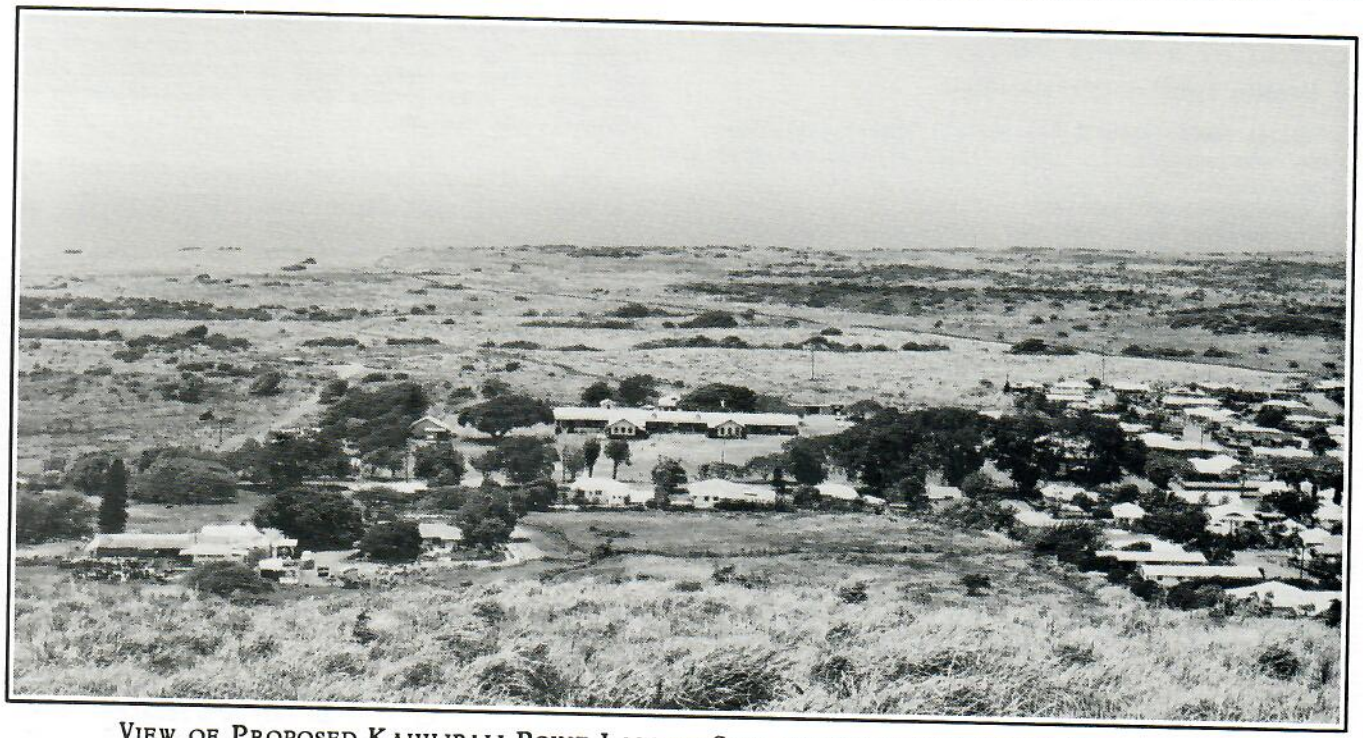
A major space-related disaster occurred on May 4 of this year when a series of fires and explosions leveled a rocket fuel plant in Henderson, Nevada. The huge blasts at Pacific Engineering and Production Company, one registering with the same force as an earthquake of 3.5 magnitude, killed two persons, injured more than 250 others and shattered windows ten miles away in Las Vegas. The firm of Morton Thiokol, manufacturer of shuttle booster engines, also suffered an explosion at its Utah plant in late 1987 that killed four workers.

The ADL report discussed the possibility of rocket failures in the following terms:

> The probability of in-flight failure or launch-pad abort for established U.S. ELVs appears to be less than 5 percent. The reliability of new vehicles can not be predicted but should be lower than those of established vehicles. In-flight destruction of a vehicle disperses its propellant load, which should ignite and burn. Some fraction of this load may reach the ocean surface. If the destruct system should fail to operate, the vehicle may impact intact and release the entire quantity of remaining propellant into the ocean.

Regarding the potential impacts of a space transportation center on the district of Ka'u's environment, state Representative Andrew C. Levin, original sponsor of legislation appropriating public funds for an EIS, was reported to have voiced some concern that prevailing wind patterns could send fuel fumes from a launch site over populated areas. The ADL study noted that, "Impacts on very clean existing air quality will require analysis." It was further stated therein:

> All ELVs are powered by chemical rocket engines. These engines operate by consuming a fuel (solid or liquid) and a self-contained oxidizer (usually liquid Oxygen, LOX). Major chemical species emitted by rocket engines are:
>
> - o Water (H_2O);
> - o Carbon Dioxide (CO_2);
> - o Carbon Monoxide (CO);
> - o Hydrogen Chloride (HC1);
> - o Nitrogen (N);
> - o Hydrogen (H); and
> - o Aluminum Oxide ($A1_2O_3$).
>
> Of these, CO [Carbon Monoxide] and HC1 [Hydrogen Chloride] are generally recognized as air pollutants. $A1_2O_3$ [Aluminum Oxide] is emitted as a particulate and may also be of concern....
>
> Due to acceleration of the vehicle and the staging process, the quantities emitted per unit length of trajectory are greatest at ground level (at the launch pad) and decrease continually (downrange). Ground level effects of the ground cloud created at lift-off are governed by the speed and direction of its movement, local meteorological conditions, and the concentration of the chemical constituents of the



VIEW OF PROPOSED KAHILIPALI POINT LAUNCH SITE WITH NAALEHU IN THE FOREGROUND.

VIEW OF PROPOSED PALIMA POINT LAUNCH SITE FROM THE GROUNDS OF KA'U HOSPITAL.

exhaust.

An April 9, 1987 article in *West Hawaii Today* entitled "Spaceport's effect on environment queried" contained the following remarks of a NASA official on the subject of launch vehicle emmissions:

NASA Environmental Compliance Officer Lewis Andrews acknowledged the large aluminum oxide emissions of the solid fuel rocket motors, but he did not acknowledge any associated health concerns.

"Aluminum oxide has not presented environmental concerns that we know of," Andrews said from Washington. "Regarding potential health concerns, the only thing we have seen is that it wipes the paint off structures. We don't know what effect it has once deposited in the soil. Research is continuing, but it appears the aluminum oxide affects percolation (the diffusion or penetration of water through the soil)."

Andrews said shuttle rocket motors also produce large amounts of hydrochloric acid and result in acid deposition or acid rain. Other solid fuel rockets, including the Titan, share some of the same exhaust constituents as the shuttle, including aluminum oxide, hydrochloric acid and carbon monoxide, he said.

"With Delta, Titan and Scout expendable launch vehicles, for all in most instances, there is no problem with emissions, except hydrochloric acid. And with the Titan-Centaur type of vehicle, there is an expressed concern with hydrochloric acid," Andrews said.

The possible "noise/visual" effects of a rocket launching facility were described by ADL as follows:

Noise impacts from any type of launch facility would be particularly significant, and would be felt over a wide area. Such noise would be intense, but of relatively short duration.

Visual impacts are a potentially important impact because the high profile nature of launch activities means a facility which is highly visible in the surrounding area. Such impacts would greatly alter the scenic character of the facility site location.

The issue of possible impacts on existing astronomical activities was also brought up in the ADL report:

As discussed in Chapter VII, the impacts of launch and other development on astronomical activities must be carefully assessed. As devlopments proceed, steps must be taken to comply with light ordinances (such as on the Big Island) or, in their absence, to ensure that any adverse impacts are mitigated.

A major bone of contention between proponents and opponents of a space transportation center in Ka'u district is the economic feasibility of such an undertaking. Regarding markets for launch services, the ADL report stated:

Past projections for payloads and launches have been extremely optimistic. Between 1980 and 1986, the highest number of launches occurred in 1984, when 32 launch

vehicles carried 45 payloads. Failures of the Shuttle, Delta, Titan and Ariane launches led to virtual grounding of non-Soviet Bloc launches. Looking to the year 2000, payloads are estimated to range from 21 to 49 per year between 1987 and 2000 under a high scenario estimate and between 12 and 34 annually under a low scenario estimate—estimates that are consistent with those of Arianespace, which projects a need to launch 20-25 satellites by ELVs through the mid-1990s, and of Martin Marietta, which anticipates a long-term commercial launch requirement of 16 satellites per year. To deliver this number of payloads per year will require 16 to 24 launches per year—a market to be divided among Arianespace, Martin Marietta, General Dynamics, [China's] Long March 3, Space Services, Amroc and others. To date, Arianespace has captured a 50 percent market share, and has publicly announced an objective to capture at least one-third of the market in the future....

Figure I-1 shows the total number of launches for orbital payloads forecast under a high scenario and a comparison with existing and planned capacity. As indicated, existing capacity can handle even the most optimistic forecast of demand for non-NASA, non-DoD payloads. It is likely that additional capacity will be added at existing facilities before a completely new (or "greenfield") launch facility is built.

According to ADL, the feasibility of a rocket launching complex in the State of Hawaii would be dependent on its ability to fill "a niche market: the launch of small to mid-size commercial and scientific payloads." The report elaborated:

However, the potential for niche opportunities, particularly for small rockets when combined with the bureaucracy and restrictions of operating at major launch facilities where NASA and/or DoD demands may take precedence, may create opportunities for smaller, specialized launch facilities.

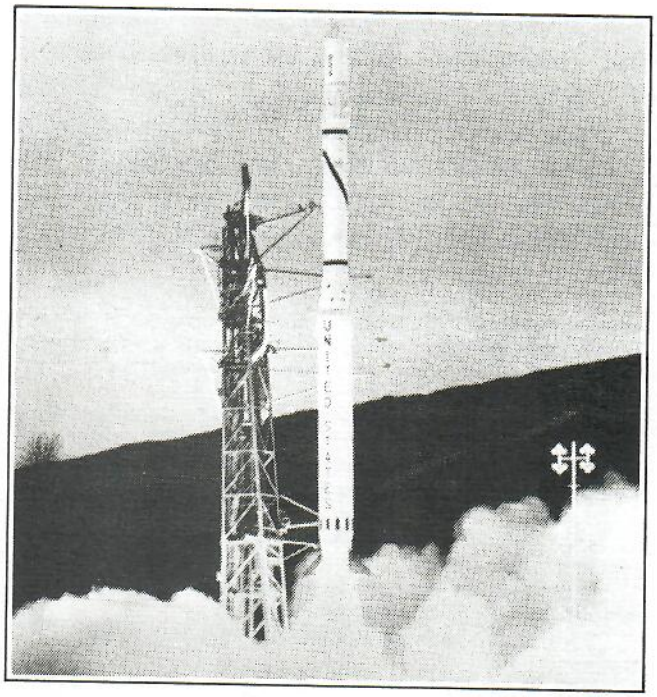
However, Hawaii would not be the only state pursuing such markets according to an article headlined "Florida starts spaceport drive," which appeared in the *Hawaii Tribune-Herald* on March 27, 1988:

Gov. Bob Martinez said Friday he will ask the Legislature next week for $500,000 as seed money for developing in Florida America's first commercial spaceport....

Martinez said Cape Canaveral and the adjacent Kennedy Space Center gave Florida a clear advantage over Hawaii and other states that are thinking of competing for launches of commercial goods such as communications satellites.

"We have the tracking systems, the launch pads, the support services, and, most importantly, we have the people to make Spaceport Florida a reality," he said.

Moreover, the staying power of some of the small, newly-established firms in this highly competitive field was called into question by the financial failure of the American Rocket Company following issuance of the ADL study in which it was prominently profiled. This firm was also named in another March 27 *Hawaii Tribune-Herald* article entitled "Mayor sees interest in a spaceport":



State D.B.E.D.

LAUNCH OF A SCOUT ROCKET.

Mayor Dante Carpenter says that unlike some in the state Senate, he is convinced that a market exists for a rocket launching facility in Ka'u.

Responding to comments made last week by Sen. Anthony Chang (D-Pauoa, Alewa, Nuuanu) that no market for a launch site has been proven, Carpenter said yesterday that he's convinced the opposite is true.

"I have spoken personally to individuals from the American Rocket Co. and I know of two or three other firms that have visited locally or expressed interest," Carpenter said.

Additional concerns that have surfaced during debate over the proposed space transportation complex in Ka'u include closure of offshore waters to fishermen during launches, the possibility that off-island residents would obtain the lions's share of any technical positions created, geological instability and periodic flooding of the Palima point site, and the chance that the Big Island might become a nuclear target should the project proceed.

Recommendations.—The risks

and uncertainties, financial and otherwise, that would be involved in the construction of a rocket launching facility in the district of Ka'u clearly warrant the preparation of a particularly thorough and unbiased EIS. According to an article in the August 23, 1987 edition of the *Hawaii Tribune-Herald*:

The astronomer, author and television host who is perhaps America's best-known scientist has this message for Hawaii officials considering developing a satellite launching facility on the Ka'u coast of the Big Island: "Look before you leap."

Carl Sagan, in an interview with the *Tribune-Herald* yesterday after his speech to the Pacific ISY Conference, stressed he was not familiar with specific arguments and counter-arguments made over a proposed isle spaceport.

However, Sagan did offer a checklist of important matters that should be considered before a move to build a space facility began.

Sagan said the decision to proceed with a Hawaii spaceport should stem from sound motives.

"Is it in the national interest, or is it just boosterism?" he asked.

And Sagan said there should be an acknowledgement of the potential impact of a space facility on the environment and island lifestyle.

"If after evaluating these concerns, the answer is the downside (of building a spaceport) is small, then go ahead," he said.

Sagan said it was an "open question" as to whether the United States had a pressing need for another space launch facility given the doldrums of the current space program.

"I certainly hope we'll have a vigorous space program in the 1990s," he said.

The argument that space is a "clean" industry could also be seen as open to argument, he suggested.

"Compared to chemical facilities or a chemical factory like those of Union Carbide, yes. Compared to mom and pop grocery stores, no," he said.

Noting the "many important questions to be resolved," Sagan urged officials to do a thorough job before reaching any decision.

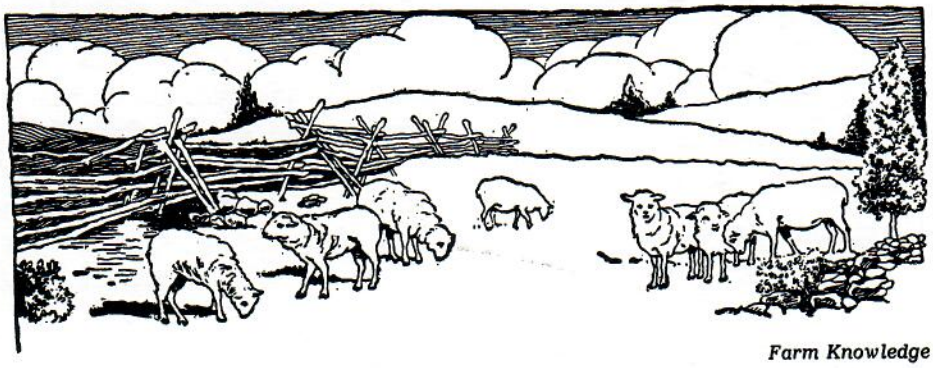
Sagan described himself as a frequent visitor to the Big Island. "It doesn't take a lot of effort to really love it," he said.

Extremely worthy of note is the fact that the ADL report clearly stated, "Hawaii can add to its space-related activities with or without launch facilities." In fact, the study revealed that this state is already playing a significant role in the first five of the following seven space market segments assessed by the consultant:

- o Earth-based communications systems and advanced user-related industries;
- o Earth and planetary remote sensing research, development and support activities;
- o Earth-based navigational support and control systems;
- o Astronomical, astrophysics and other space science research;
- o Defense and other federal agency space activities;
- o Visitor industry developments related to space; and
- o Launch services at a small to mid-size launch facility serving commercial and scientific payloads.

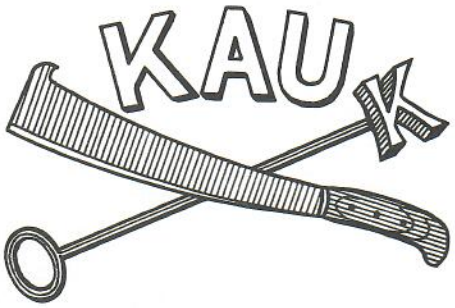
In a contribution to the study *Hawaii 2000*, published in 1973, University of Hawaii at Hilo educators Charles M. Fullerton and Kaoru Noda wrote:

Could we afford to limit the development of heavy industry on the Big Island? Considered as a part of the total United States, the island of Hawaii contains about 0.11 percent of the nation's area. It is probable that no other 0.11 percent of the United States contains the variety of culture conditions and environmental factors found here. From the viewpoint of national self-interest can we afford not to set aside this unique cultural-scientific-environmental resource for future studies?



Farm Knowledge

A NEW OUTLOOK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A NEW OUTLOOK.

N A 1970 CASE concerning the Lake Tahoe area, which straddles the California-Nevada state line, the California Supreme Court cautioned: "[T]here is good reason to fear that the region's natural wealth contains the virus of its ultimate impoverishment. A staggering increase in population, a greater mobility of people, an affluent society and an incessant urge to invest, to develop, to aquire and merely to spend—all have combined to pose a severe threat to the Lake Tahoe region." Sadly, the California court's warning is equally applicable to the Hawaiian Islands 29 years after statehood.

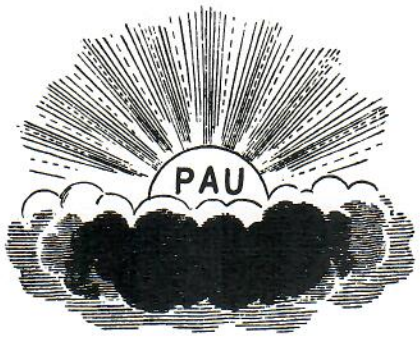
The permanent scars of development geared to wring "maximum dollar value" from limited island resources are plainly visible throughout the State of Hawaii today. Yet the goal of widespread prosperity and well-being, which was the justification for all this debasement, now seems farther out of reach than ever before. Quite obviously, unbridled economic expansion is not a panacea that will magically remedy the ills of society caused by poor planning. On the contrary, a shotgun approach often precipitates even greater dislocations.

For some communities in Hawaii, warnings and admonition come far too late; there runaway population growth has created an insatiable demand for further growth to provide the spiraling population with desperately needed housing, government services and employment opportunities. Regrettably, prevention through sound planning is the only cure—short of draconian legal measures, natural cataclysms or economic collapse—for such population explosions.

Clearly then, what is called for in those places that have yet to reach the point of no return is a new outlook on growth and development: a realization that over the long term bigger is not necessarily better. There is a growing volume of evidence suggesting that slow, steady

and diversified growth can yield a community a far more favorable cost-benefit ratio than a sudden economic boom precipitated by some massive construction project. A heightened awareness of the far-reaching cumulative and consequental impacts of development, particularly in the critical area of population growth, is also imperative if past planning mistakes are to be avoided in the future.

As for putting this new outlook into practice, there is perhaps no other region in *Hawaii Nei* more ideally equipped to become a laboratory for enlightened planning than Ka'u district. The institution of an integrated program to preserve intact Ka'u's nationally significant natural, historic and scenic resources, and to promote the balanced development of complementary inland visitor accomodations, diversified agriculture, aquaculture, high technology ventures and educational activities would set a shining example for other communities in this state and beyond to follow. In the same pioneering spirit that ancient Polynesian seafarers established a new society on these shores, today a solid foundation can be laid for true progress in the Great and Majestic District of Ka'u, one that will allow her inhabitants to achieve lasting prosperity...without paying a terrible price.



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AND

APPENDIX

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FIFTH LEGISLATURE, 1970
STATE OF HAWAII

SENATE RESOLUTION NO. 355

RELATING TO THE ESTABLISHMENT OF A TEMPORARY COMMISSION ON POPULATION STABILIZATION

WHEREAS, current interest in environmental health requires that man pinpoint the complex natures of specific environmental dangers; and

WHEREAS, pressing for immediate attention, population growth and its detrimental effects emphatically pose dangers to the environment; and

WHEREAS, although population growth and its effects are an important sector of environmental health, it is difficult to alert people to the importance of effects that are delayed and not fully understood or felt at the present time; and

WHEREAS, in the area of population growth, tomorrow is already at hand; therefore, it is necessary that man acquire wisdom and full understanding of its impact to cope with some of the many complexities involved; now, therefore,

BE IT RESOLVED by the Senate of the Fifth Legislature of the State of Hawaii, Regular Session of 1970, that the governor be, and he is hereby, requested to establish a temporary Commission on Population Stabilization consisting of nine members appointed by the governor from the following fields and specialties: an ecologist, a demographer, an economist, a social scientist, a public health specialist in family planning, and representatives from Hawaii Planned Parenthood, Inc., Hawaii Medical Association, Hawaii Family Planning Council, and from the Office of Economic Opportunity; and

BE IT FURTHER RESOLVED that this commission be directed to undertake as one of its major goals, the population stabilization in the State of Hawaii and in this connection be responsible for:

(1) Holding public hearings and conferences and conduct research to effectuate the purposes of the commission;

(2) Coordinating family planning programs throughout the State through operations research, training, and demonstration clinics to improve delivery of services in community family planning clinics,

(3) Determining the optimum size, growth rate, and distribution of population within the State based on technology, social values, and related circumstances;

(4) Studying the effects and changes of population growth and migration on established state goals in economic development, health care, education, urban planning, transportation, welfare, and recreation;

(5) Calculating the capacity of the state with reference to agricultural production, waste production, recycling and regeneration time of natural resources, and technological advances in these areas,

(6) Conducting research to develop incentives which would encourage or discourage birth control, incuding the development of effective educational, informational, service, and counseling programs relating to family life and family planning for all persons capable of being parents;

(7) Studying the interrelationship between the state, the United States, and the world with reference to the commission;

(8) Formulating policies and administrative mechanisms for the attainment of objectives under the commission;

(9) Conducting research on migration in or out of the state and population distribution within the state and on developing means of influencing the population of the state and its distribution.

BE IT FURTHER RESOLVED that a certified copy of this Resolution be transmitted to the Governor.

OFFERED BY: /s/ Nadao Yoshinaga

Adopted 5/8/70

SUMMARY OF RECOMMENDATIONS

1. Basic Legislative Policies

   a. The Legislature should adopt a comprehensive policy on Hawaii's population growth and stabilization.

   b. The Legislature should adopt a rational rural-urban growth policy.

   c. State land use district boundaries should be based on the rural-urban growth policy.

   d. The State should undertake a study of population re-distribution to determine if it is a viable and desirable goal.

2. Population Education

   a. Population education courses which include discussions of human beings should be mandatory in the public schools and the University of Hawaii system.

   b. Funds should be appropriated for adult education courses on population education.

   c. Funds should be appropriated for a public information program on population growth problems.

3. The State Population Commission

   a. The State should establish a permanent commission.

   b. The membership of the commission should be expanded to include representation from the Legislature, the Neighbor Islands, youth, labor, and management.

   c. The minimal operating budget requested should be granted to provide a small core staff and support the Research and Action Work Program of the Commission.

d. The commission should be required to submit an annual report. Attach the commission administratively to the Department of Planning and Economic Development.

4. Research and Action Program for the Commission

a. There should be a determination of ways to achieve a viable economy within the limits of a sharply reduced population growth rate.

b. There should be a group of governmental officials to insure intergovernmental coordination of work to implement the population policy mandates of the Legislature.

c. Research is needed to define standards, parameters, and measures on which to decide population optima.

d. The Commission should undertake a comprehensive study of public knowledge, attitudes and behaviors with respect to the determinants and consequences of population change.

e. There is need to develop a population education program for the schools and the general public.

5. Family Planning Services

a. Appropriations for family planning services and birth control should be increased to a level which is approximately double the present level.

b. The Department of Health should be designated as the agency responsible for coordinating family planning services.

c. The Department of Health policies should be changed to allow all lawful means of family planning.

d. Health and medical insurance policies for public employees and beneficiaries should include family planning services, abortions, and sterilizations.

6. State Resolutions Encouraging Federal Actions

a. The Legislature should adopt a joint resolution requesting Congress to assist states in developing migration policies and possible controls between states; and develop a timetable for reduction of immigration into the U.S. to equal emigration from the U.S.

b. The Legislature should adopt a joint resolution requesting larger Federal appropriations for population education, family planning services, birth control research, and birth control devices.

7. State Legislative Actions in Support of Rational Population Planning

a. State income tax laws should be amended to provide no deduction for children and the additional tax revenues should be set aside exclusively for children's facilities and programs; equalize the tax for single persons and married couples.

b. The State Commission on Manpower and Full Employment or other State agencies should develop public information materials that present factually the conditions that prospective in-migrants will find in Hawaii.

c. The State should undertake efforts to make Hawaii more self-sufficient in its food production.

d. The State should place greater economic emphasis on natural resources rather than tourism.

e. Close coordination of land use planning, population planning, and environmental planning must be effected.

8. State Actions Encouraging Best Use of Demographic Data

a. Statistical monitoring of trends in both the resident and non-resident (or visitor) populations should be continued and expanded, through such measures as supporting the proposed mid-decade census, expanding the demographic content of the Hawaii Health Surveillance Program survey, and legally requiring all carriers serving Hawaii to distribute, collect, and submit passenger information forms comparable to those currently in use, on a voluntary basis, by the State Department of Agriculture and the Hawaii Visitors Bureau.

(Reproduced from the *Report of the Temporary Commission on Population Stabilization.*)

MAXIMILLION PROPOSALS

1. ESTABLISHMENT OF A POPULATION CEILING

It is proposed that the Hawaii State Legislature formally establish a policy of stabilizing that State's resident population at or below a population ceiling of one million residents.

2. MAXIMILLION PLANNING

It is proposed that the Governor of the State of Hawaii formally mandate all State agencies to guide their activities and planning in accord with the established population ceiling and that each agency be required to submit detailed descriptions of its probable level and character of activities when serving a stabilized population of one million residents.

3. POPULATION STABILIZATION COMMISSION

It is proposed that the Hawaii State Legislature establish and fund a permanent commission on population stabilization with the following mandates:

a. To prepare, with demographic and other professional consultation, a desirable pattern of reductions in fertility and in-migration to result in population stabilization at or below the established population ceiling,

b. To commission other relevant research and to make recommendations for methods of achieving population stabilization,

c. To convene State and County officials for the purpose of determining the most desirable distribution of population throughout the State under a condition of population stabilization, and

d. To formally review the population-relevant aspects of the activities of State and County agencies.

4. LAND USE POLICIES

It is proposed that the Hawaii State Legislature and the several County Councils formally mandate their respective land-use planning agencies to guide their activities in accord with the following criteria:

a. Restoring a better balance of the State's ecosystem,

b. Encouraging a more varied economic structure for the State,

c. Encouraging a more varied residential configuration,

d. *Encouraging economic developments which will draw on the skills and interests of the present residential population rather than requiring new in-migration, and*

e. *Protecting and preserving the natural beauty of the State.*

5. POPULATION IMPACT STATEMENTS

It is proposed that the Hawaii State Legislature and the several County Councils pass legislation requiring that all requests for rezoning of land to higher densities be accompanied by population impact statements, detailing the likely consequences of the request for population growth in the State, and that such statements be reviewed and commented upon by the Population Stabilization Commission.

6. REVISION OF INCOME TAX DEDUCTIONS FOR DEPENDENTS

It is proposed that:

a. *The Hawaii State Legislature amend the State income tax laws so as to abolish deductions for dependent children, and*

b. *That Hawaii's U. S. Senators and U. S. Congressmen be requested to introduce national legislation to abolish deductions for dependent children on the Federal income tax.*

7. COSTS OF CONTRACEPTION I

It is proposed that the State of Hawaii Department of Health be mandated and funded to provide free contraceptive drugs, devices, and operations to any resident requesting same.

8. COSTS OF CONTRACEPTION II

It is proposed that the Hawaii State Legislature, by formal resolution, request that all private health delivery agencies adjust the costs of contraceptive operations (a) in accord with the actual costs of providing such operations and (b) in relation to the costs charged for maternity care.

9. CONTRACEPTION FOR YOUTH

It is proposed that the Hawaii State Legislature remove all legislative barriers to contraceptive methods based on age.

10. EDUCATION IN CONTRACEPTION AND OVERPOPULATION

It is proposed that the Hawaii State Legislature:

a. *Fund and mandate the Department of Health to institute a public educational campaign regarding the dangers of overpopulation and methods of contraception, and*

b. *Fund and mandate the Department of Education to intensify its curricular instruction regarding the dangers of overpopulation and methods of contraception.*

11. PROGRAM OF RESEARCH ON MIGRATION TO AND FROM HAWAII

It is proposed that the Hawaii State Legislature fund and mandate the Department of Planning and Economic Development to initiate a comprehensive and continuing program of research on migration to and from the State, with data to be collected from every person entering or leaving the State, with the purpose of learning the numbers and characteristics of both in-migrants and out-migrants, plus the reasons for migration.

12. EXPLORATION OF POTENTIAL FOR MIGRATION CONTROL

It is proposed that the Hawaii State Legislature mandate the Attorney-General's Office to undertake a study regarding the conditions under which the State of Hawaii might constitutionally institute a program of migration control.

13. PLANNING FOR AGRICULTURAL SELF-SUFFICIENCY

It is proposed that the Hawaii State Legislature fund and mandate the Department of Agriculture to initiate a research program to determine the acreage required to meet the anticipated needs of an ultimate population of one million residents in each of the several foodstuffs consumed by the population.

14. PLANNING FOR INDUSTRIAL SELF-SUFFICIENCY

It is proposed that the Hawaii State Legislature fund and mandate the Department of Planning and Economic Development to initiate a research program to determine the types and levels of industrial production which would be required to support the needs of an ultimate population of one million residents. The proposed research program is meant to include consideration of recycling in traditional industries and the possibility of new industries based on recycling.

15. COMPREHENSIVE DATA SYSTEMS

It is proposed that the Hawaii State Legislature create and fund a research agency mandated to develop a comprehensive, computerized system for data storage, retrieval, and analysis with the following goals:

a. *To facilitate the analysis and reporting activities of individual State agencies,*

b. *To provide easy administrative access to data for purposes of planning,*

c. *To provide a central data repository to facilitate comprehensive analyses stretching across several substantive areas, and*

d. *To provide the essential data base for the eventual development of computer simulation models of the State of Hawaii as a total ecosystem.*

(Reproduced from *The Maximillion Report* by Earl R. Babbie.)

W H 6 B L Q
George H. Balazs
992-A Awaawaanoa Place
Honolulu, Hawaii 96825

ABOUT THE AUTHOR.

Glen M. Winterbottom's interest in innovative planning can be attributed in major part to his growing up in the Waikiki area of Oahu and witnessing first hand the despoilation of that famous landmark.

The author is a fourth-generation resident of the Hawaiian Islands. His great-grandfather helped construct various Oahu sugar mills in the late 1800's, while his grandfather, D.L. Austin, Sr., was the founder and long-time proprietor of Honolulu Sporting Goods (now Honsport). His mother, Codie Austin Cooke, is a former territorial golfing champion.

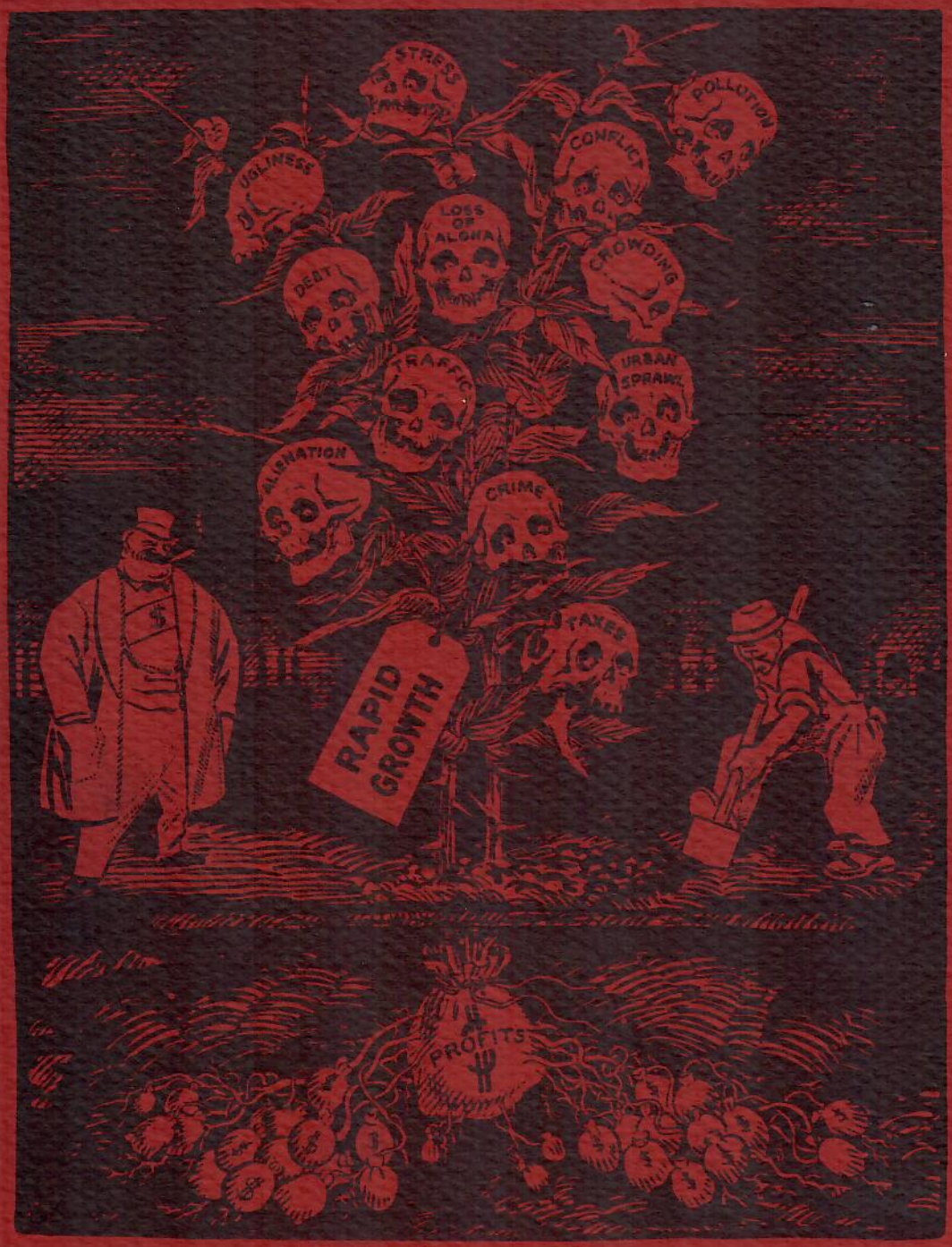
Glen Winterbottom attended Waikiki Elementary and Kaimuki Intermediate schools, and graduated from Kalani High School on Oahu in 1972.

He is a former Naalehu Dairy cowboy and milker, and represented the dairy at the 16th Biennial Convention of Local 142, International Longshoremens' and Warehousemens' Union, in 1983. Other occupations in which he has been employed or self-employed include newsboy, golf cart boy, state quarantine animal caretaker, estate custodian, sign painter, architectural draftsman, scrapyard laborer, security guard, night courier, roofer, greenskeeper, carpenter, truckdriver and orchard research worker.

The author has resided in the town of Naalehu since 1978.

Sometimes it pays to be out of step with the world as I was at that time; sometimes it doesn't. But in step or out of step, in jail or out of jail, we had the satisfaction of feeling that we were on the side of right and justice and that it was the other fellow who was beyond the pale. . . . We were rebels—and proud of it.

Ralph Chaplin, I.W.W.



BIG BUSINESS (to Hawaii, generously): "My good fellow, you'll be well paid for your patriotic action in tending this glorious plant; you shall have all the fruit above the ground—I'll take ONLY the roots!"

Adapted from *Industrial Pioneer*, June 1925.