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Hawai'i Turns to Sugar: The Rise of Plantation Centers, 1860–1880

Except sugar and dollars, one rarely hears any subject spoken about with general interest.

Isabella Bird, *Six Months in the Sandwich Islands* (1874)

HAWAI'I'S ECONOMY turned toward sugar in the decades between 1860 and 1880. These twenty years were pivotal in building the plantation system. Basic features of rural factory life were established. Hawai'i's government committed extensive resources to the success of sugar export. Honolulu's merchants and financiers came to dominate sugar production. The Islands turned a corner during these decades—Hawai'i's dependence upon sugar began.

This period was the link between the earlier failed commercial plantations of mid-century¹ and the powerful industrial plantations that dominated the landscape when Hawai'i lost its independence. It was a period characterized by the plantation center.

Five plantation centers changed the surrounding landscape and altered nearby Hawaiian communities. Plantations in Lihu'e, Wailuku, Makawao, Hilo, and Kohala brought an invasion of agricultural practices, technologies, and population that supplanted native production systems and reseeded the land with foreigners and Hawaiians from other islands. New patterns of agriculture, work, and community life emerged, providing the foundation for industrial

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plantations of the 1890s. Utilizing native labor, fertile lands, and significant volumes of water and wood, the plantation centers propelled Hawai'i into the nineteenth-century world economy.

The change in Hawai'i's sugar production between 1850 and 1900 was remarkable. Eighteen fifty was a time of small, experimental, commercial plantations. Sugar was only one of many export crops. Technology was simple, the workforce small and employed only part-year, with fewer than ten small plantations in existence.

During the Civil War boom period, the 1860s plantation was two hundred to three hundred acres in size, with about one hundred acres in cane, employing around one hundred workers year-round. The fastest growth occurred on Maui, which in 1866 had twelve plantations, compared to Hawai'i's eight, O'ahu's six, and Kaua'i's four. Differences in production figures were more dramatic. Estimated Maui sugar tonnage was 7,750—more than one-half the total for all islands. For Hawai'i, it was 3,400 tons—just under a third of the total.²

By 1880, the island of Hawai'i had become the major sugar producer. J. S. Walker's compilation of plantation statistics for the Hawaiian government in 1879 shows Hawai'i with twenty-four plantations, Maui with thirteen, Kaua'i with seven, O'ahu with seven, and Molo-ka'i with three—a total of fifty-four operations. The island of Hawai'i's estimated crop at that time was 19,732 tons, compared to Maui's 12,200 tons. Although Maui's sugar operations continued to grow in size and value, Hawai'i witnessed a boom of development right at the end of the 1870s with many new and smaller plantations along the Honoka'a coast, in the Kohala district, and in Ka'u. Total tonnage estimated for 1880 in this survey was 38,647.³ Comparing the estimates of total sugar produced between 1866 and 1879, we see an increase of more than 250 percent over a thirteen-year period.

For perspective, the larger industrial plantations of the 1890s occupied two thousand to three thousand acres and employed up to one thousand workers or more.⁴ The largest plantation of 1890, Hawaiian Commercial and Sugar Company on Maui, produced nearly 12,000 tons of sugar alone. While size increased considerably, the number of plantations increased only by about ten between 1880 and 1890.⁵ The quantum leap in size (acreage and workforce) reflected the introduction of sophisticated, expensive technology for the time.

Mill technology in the sugar industry is an important indicator of growth. Mills of the 1860s were typically powered by animals and water. Steam engines were few—about five of thirty-three mills.⁶ Hence, mill capacity was small and plantations were limited in acreage. By the 1880s, almost all mills were powered by steam or a steam/water combination. Other expensive equipment came with steam power: as three or more iron rollers to crush the sugar and extract the juice, vacuum pans, and centrifugals to prepare higher quality sugars at a faster pace. But more important, steam-powered mills and corollary equipment demanded extensive acreages of cane to make them pay and a year-round workforce to maintain the field operations.

PLANTATION CENTERS

At the heart of this transformation was the plantation center. Unlike the commercial sugar mill, which drew on existing communities of Hawaiian workers, the plantation center represented a new clustering of population and technology. Specifically, it was characterized by a sizable increase of foreign population, government recognition of the area as a vital economic region with distinct political needs, and by public and private investment in a shared physical infrastructure (e.g., stores, wharves, harbors) established specifically to trade with the West. An important development in Hawai'i's history, the plantation center created new social institutions of dependency.

Three regions already engaged in sugar growing—Līhu'e/Kōloa, Makawao, and Hilo—grew significantly in production and foreign population. Investments in new sugar operations at Kohala on Hawai'i and Wailuku on Maui brought plantation development into previously remote Hawaiian communities. Several satellite areas opened in other locations: Hāna and Lahaina on Maui, Princeville on Kaua'i, and Waialua and Kāne'ōhe on Oahu.

What encouraged the development of plantation centers? For one, the American settlement of California opened lucrative avenues of trade in the Pacific. The Civil War virtually shut down Louisiana sugar production during the 1860s, enabling Hawai'i to compete in a California market that paid elevated prices for sugar. The Pacific whaling trade collapsed after 1860, pushing Honolulu merchants

into the sugar trade and leaving native Hawaiian agriculturalists without income from the cash-generating vegetable trade. About the same time, the closing of the Hawaiian mission in 1860 left the previously supported missionaries in search of new means of income. Plantation documents from the 1860s bear several familiar missionary names as investors and managers: Castle, Bailey, Rice, Wilcox, Alexander, Baldwin, Chamberlain, Judd, Cooke.

The Hawaiian government also had a significant hand in the rise of plantation centers. The decline of whaling, collapse of the native vegetable trade, and a rapidly decreasing native population left the government with huge expenditures and little source of income. In response, it applied public funds and assets toward the sugar trade in hopes of increasing Hawai'i's wealth. The Board of Immigration was established in 1866 to recruit workers for plantations. The sale of government lands, especially on Maui during the early 1860s, aided development of new plantations. And, of course, the Reciprocity Treaty in 1875 traded rights to Hawaiian property for free entry into the California sugar market. Segments of the native Hawaiian community resisted many of these changes. Newspapers and petitions to the legislature reflect an intense debate within the Hawaiian community about the changes brought by the government's commitment to sugar.⁷

Between 1860 and 1880 five plantation centers prospered: Wailuku, Makawao, Lihu'e, Hilo, and Kohala.⁸ Table 1 lists the plantations in each of the five centers and illustrates their growth in acreage of cane between the 1867 and 1879 (dates of the first two systematic surveys).

Characteristics of the five developing plantation centers separate them from the smaller sugar ventures of the period. Investment of large amounts of capital from several sources and purchase of state-of-the-art machinery for the mills (especially vacuum pans, steam engines, and centrifugals) supported large acreages of sugar cultivation. A distinct community life emerged at these centers as well. The daily existence of several hundred workers revolved six days a week around the tasks of planting, weeding, chopping and hauling wood, cutting and hauling cane. A much smaller number of workers in the mill continuously ground, boiled, and packaged sugar.

Plantation centers comprised several separate sugar mills and

TABLE 1. Plantation Centers, 1867–1879: Changes in Cane Acreage

Plantation Center/Plantation (date started)	1867 Acres in Cane ^a	1879 Acres in Cane ^b
Wailuku		
Wailuku (Brewer) (1863)	500	800
Wailuku (Bailey) (186?)	120	—
Waikapu Plantation (1864)	600	350
Waihee Plantation (1863)	n.a.	800
Wailuku center total	1,220+	1,950
Makawao		
East Maui Plantation (1850)	500	450
Grove Ranch (1850)	800	500
Makee's (1860)	800	200
Haiku Plantation (1858)	575	1,000
Baldwin & Company—Pā'ia (1870)	—	400
Makawao center total	2,675	2,550
Hilo		
Amauulu Plantation	375	
Kaiwiki Plantation	620	
Paukaa Plantation (1850)	150	300
Onomea Plantation (1863)	500	300
Kaupakuea Plantation (1859)	400	350
Spencer Plantation (1850)	n.a.	400
Papaikou Plantation (1875)	—	280
Hilo center total	2,045+	1,630
Kohala		
Kohala Sugar Company (1863)	650	600
Dr. Wight (1870)	—	250
Union Mills (1874)	—	400
Hinds Mills (1876)	—	400
Hart & Company (1877)	—	240
Star Mills (1878)	—	250
Kohala center total	650	2,140
Lihue		
Koloa Plantation (1845)	n.a.	500
Lihue Plantation (1850)	175	700
Lihue center total	175+	1,200
Cane acreage for all plantations	10,006+	22,355

Sources: For 1867: *Pacific Commercial Advertiser*, 19 Jan. 1867: collected by G. P. Judd from site visits. For 1879: J. S. Walker, Memo: Statement Sugar Plantations of the Hawaiian Islands, 27 Aug. 1879, Interior Dept.—loose files, AH.

^a Acreages listed for 1867 are not complete. Judd did not visit all plantations. They may also not be as accurate as those of 1879. These figures are most useful to gain a view of the proportional size of plantations in a particular center.

^b In 1879, acres of cane in plantation centers represents only 42 percent of the total throughout the Islands. This is because plantation centers considered in this review are ones started in the 1860s and built over two decades. By 1880 there were several other very new centers in Ka'ū and Honoka'a on Hawai'i, Lahaina on Maui, Princeville on Kaua'i, and several scattered plantations on O'ahu.

fields of different owners. Schools, stores, and worker villages sprang up around these centers, serving the plantations. The planters cooperated in numerous ways. They shared irrigation systems (Makawao). They ground each other's sugar when mills broke down or burned. On Maui they negotiated a common price for sugar with a San Francisco purchaser.⁹ Plantation managers also worked together to secure appointments of favored individuals to the district court, sheriff's office, Board of Boundary Commissioners, as tax collectors, and to other district-level political positions.¹⁰ Whole regions specialized in sugar growing as the surrounding Hawaiian villages disappeared. Tax records show that native Hawaiians once dispersed in many villages through a district on different *ahupua'a* began to cluster in numbers around plantation centers.¹¹

Brief descriptions of each "center" illustrate some of these characteristics.

Wailuku

Wailuku developed during the boom period of 1860–1866 with numerous mills, independent growers, and a growing population of foreigners. It also included the neighboring areas of Waihe'e and Waikapū. At the center of this district was the site of King Kamehameha's mill from the 1840s. The main attraction of the region was the water supply and the potential profits from large irrigated fields of sugar cane.¹² Plantations here benefited from the sale of government lands to foreign speculators and investors in the 1850s and 1860s for purposes of raising revenues for the Hawaiian treasury.¹³ The most advanced technology of the Islands was found here, with all of the mills (built in the early 1860s) powered by steam.

The Wailuku sugar-producing center had 2,250 acres planted in cane in 1867 (not including plantation-owned pasture and woodlands). Regular plantation employees in Wailuku numbered about 620.¹⁴ The composition of population in the region changed quickly. Tax assessment rolls indicate that more than one hundred foreigners were in residence due to arrival of blacksmiths, carpenters, and other skilled artisans to work for the plantations.¹⁵ Inflation in land values also reflected the sugar boom. A correspondent for the *Pacific Commercial Advertiser* noted that the sale of school land in Waikapū real-

ized \$80 per acre, where it would have sold for only \$25 eighteen to twenty months previously.¹⁶

In 1880 only three plantations remained in the center—Waikapū, Wailuku, and Waihe‘e (Lewers) plantations—encompassing 1,950 acres of cane lands, slightly less than the 2,200 acres of 1867. Wailuku Plantation had expanded by then, absorbing the Bailey plantation and Bal and Adams’s mill and cane acreage.¹⁷ Typical of the time, the plantation center had not grown in size, but had consolidated under fewer owners.

Makawao

Plantations already established in Makawao continued into the 1860s: East Maui Plantation (Wood/Spencer), Brewer Plantation (formerly Reynolds’s Hāli‘imaile), Hobron’s (Grove Ranch), and the Makee Plantation at ‘Ulupalakua (formerly Torbert’s plantation).¹⁸ This region, once known as East Maui, was an active site of early sugar experimentation.

The Makawao plantation center coalesced around the growing dominance of one company—Haiku Sugar Company. Heavily capitalized, Haiku encompassed several thousand acres, and with its advanced machinery and management practices, quickly overshadowed the neighboring plantations.

Haiku’s relations with the other plantations were more cooperative than competitive. The company encouraged independent growers to plant cane, signing contracts to grind their cane. Prior to building the mill, the company negotiated with neighboring sugar growers E. Miner, L. L. Torbert, and A. H. Spencer to prepare the new cane lands and protect them from trespass by horses and cattle.¹⁹ Later, when the new manager, George Beckwith, recommended building a larger mill than originally discussed, he suggested the additional cost be paid by grinding the cane of other nearby growers on shares. This was an innovative strategy for the time, serving two purposes: financing a large mill and unifying growers in the area under shared goals. As a result of Haiku’s strategy, the Makawao plantation center was typical of the “central mill” concept popular at the time in other parts of the world.

Haiku Sugar Company also organized financing, building, and

operation of the Hāmākua Ditch. As early as 1857 drought was a continual problem in this region, threatening to end sugar production. Built deep into the forests of the East Maui mountains, the Hāmākua Ditch made water available to all of the plantations. Samuel T. Alexander, Haiku's new manager, began planning the ditch in 1871 at an estimated capital cost of \$200,000. This was the largest water project of the time. Half the ownership would belong to Haiku Sugar Company, the remaining half to other planters nearby (Alexander & Baldwin, Jas. Alexander, C. Brewer & Company). Haiku was to have the first water for 1,000–2,000 acres of land. As planned, the ditch was capable of irrigating 3,000 acres.²⁰ The project was completed in 1876.

The Makawao plantation center remained fairly stable for two decades.²¹ In 1867, there were four plantations, a total of 535 sugar workers, and 2,675 acres in cane. All four plantations were still in business in 1880 with cane acreage relatively stable. This would soon change. Charles Spreckels, a San Francisco sugar refiner began development in 1882 of what would soon become the largest, most heavily capitalized mill in the islands—Hawaiian Sugar & Commercial Company.

Hilo

As a plantation center, Hilo had its roots in several early plantations established by Chinese residents. This region had seen continued production of sugar since the 1840s. Twenty years later, there were at least two Chinese-owned plantations operating—'Amaulu and Wainaku. Several others had started and failed or merged with the surviving operations.²² G. P. Judd's 1867 plantation survey shows five in the Hilo district, employing approximately 800–900 workers. Because of the numerous streams running year-round in Hilo, these plantations were all water-powered. Records show about 1,900 acres planted in cane, with probably the largest concentration of plantation workers in any of the centers, numbering about 700.²³

In an interesting development, Chinese investors started to sell their plantations to new European or American owners beginning the 1860s. Reasons for this are unclear. We know that at least one

plantation owner/businessman, Chun Afong, returned to China.²⁴ J. S. Walker's 1879 survey shows a list of nine plantations, with only one still owned by Chinese investors. At that time, the Hilo plantation center had about 2,390 acres planted in cane.²⁵

Characterizing the Hilo center in this period is difficult. There are few documents on the Hilo plantations prior to 1880, with most information obtainable only from sporadic news reports. We do know that the Hilo district had a sizable Chinese population. The *Pacific Commercial Advertiser* noted about seventy-five Chinese in the town of Hilo itself in 1867 (a population equivalent to the number of Americans).²⁶ In 1869, this newspaper noted that 273 Chinese resided on the island of Hawai'i. With Kohala the only other operating plantation outside of the Hilo district, the bulk of this population probably lived in and near Hilo.²⁷

Tax records indicate clustering of Chinese populations in the Hilo district around plantations. The 1860 assessment indicates there were ninety-one Chinese at 'Amauulu, a Chinese-owned plantation. The 1870 assessment shows no Chinese at 'Amauulu (then the Spencer plantation), but instead ninety-two at the Onomea plantation and thirty-five at Paukaa.²⁸ Descriptions of plantation life in the Hilo area are unavailable.

Kohala

Kohala Sugar Company, like Haiku Sugar Company, was the primary plantation of the North Kohala district on the northmost point of the island of Hawai'i. It was the anchor to smaller growers who supplied cane to Kohala's large and modern mill—another example of the "central mill" concept. Not until the late 1870s, after the Reciprocity Treaty, were other plantations built in the Kohala district. By 1880 there were six plantations.²⁹

Kohala Sugar Company started in 1863 as a joint stock company, quickly purchasing a large steam mill. It was owned by several missionary families, including the Cookes, Castles, and Bonds, who were the major investors. By 1866 it has installed a vacuum pan, the sign of a technologically advanced plantation. At that time it had about 650 acres of cane planted and 175 workers.³⁰ Cane acreage in the

district had expanded to 2,150 acres by 1879 for the six plantations—a sizable increase. Kohala was still the largest plantation in the district, though it had not expanded its planted cane acreage beyond that of 1867.

Like many plantations of the time, Kohala Sugar Company struggled with drought and machinery problems during these early years.³¹ It survived because of continued capital investments by its agent and part owner, Castle & Cooke.

Līhu‘e

The plantation center surrounding Līhu‘e extended into the neighboring district of Kōloa and encompassed two plantations: Lihue (started in 1850) and Koloa (started in 1845), plus a few small growers (G. N. Wilcox and A. H. Smith). Of the five plantation centers, Līhu‘e was the smallest. As a center, it produced only about 600 tons of sugar in 1867. This is equivalent to the production that year by Haiku Sugar Company. By 1880, however, production had increased dramatically to 2,800 tons.³²



FIG. 1. Bird's eye view of Lihue Plantation and Mill about 1870. The photographer was H. Chase, who resided in the Islands from 1868 to 1872. (Hawaiian Historical Society)

Between 1860 and 1880, the Lihue plantation center became a home for German immigrants—plantation managers, sugar boilers, and skilled workers. The logs of Lihue Plantation bear many German names among the mill and skilled workers.³³ By 1879, both Koloa and Lihue Plantations were largely owned by German investors. Agents Hackfeld & Company and Hoffschlaeger & Company, with home offices in Germany, provided capital to all planters of the Lihue area, except A. H. Smith.

Hawaiians and Chinese constituted the largest segment of the plantation workforce. A. C. Alexander noted that most field workers at Koloa Plantation were Chinese contract laborers.³⁴ Records of the Lihue Plantation show a large majority of Hawaiian field workers, both men and women. Between 1860 and 1867, all workers were Hawaiian. Beginning in 1870, about twenty Chinese are listed in the payroll book each year.³⁵

The Lihue plantations were probably the most interdependent of all the other regions. Mutual ownership, grinding agreements, and shared irrigation plans bound the mills and fields together in a common endeavor. Similar to the East Maui plantations of the 1850s, the Lihue plantation center struggled from the 1860s onward with problems of drought and deforestation. One observer noted about the hills above Lihue:

The country was undergoing the process of denudation. Non-resident landlords, large landholders, have in most cases leased out their lands by long leases to vandal-like tenants, who are making the most of their time and their bargain by cutting down the forests, and supplying the sugar mills, shipping, and even Honolulu with wood. . . . Sixteen years ago, where beautiful kukui groves gladdened the scene, is now a barren plain.³⁶

Though this was a typical problem of other plantation centers, the consequences of deforestation for the Lihue and Koloa mill, however, were serious. Power for the mill depended upon regular flow in the streams from the forested areas. George Wilcox (Grove Farm) and Paul Isenberg (Lihue) had both built small ditches to deliver water to their fields and mills. In the early 1870s, at about the same time as the Hāmākua Ditch at Ha'ikū was under construction, they planned and built a large extension of the Lihue Ditch.

Prior to the Reciprocity Treaty, investments in land and mill equipment in the Lihue center remained relatively stable. After the treaty, the center witnessed investment in new equipment (a second mill at Lihue Plantation), expanded acreages (9,000 at Lihue, 875 at Koloa), and increased importation of Chinese workers.³⁷

THE EMERGING PLANTATION COMMUNITY

The plantation center had distinctive features as a workplace, a community, and a landscape. As predecessor to the industrial plantation, it developed new policies of pay and discipline that segregated workers, established housing and food policies that bound workers to the location for sustenance and shelter, and built plantation stores that used debt to keep them for lengthy stays. It also marked the beginning of increasing central control over plantation management by Honolulu investors and merchants.

Between 1860 and 1880, plantation centers became factory communities timed to the demands of the mill and the chemical structure of the sugar cane. Cleared fields, imposing buildings with steam-driven machinery, smokestacks dispersing black clouds from wood burning, flume systems that delivered water and cane to the mill, and large pasturages for oxen, horses, and mules radically changed the local environment. Life revolved around coordination of many tasks, timed in a precise fashion around grinding regimens. Efficient sugar mills required a constant fuel supply of wood or water. Transportation of wood, water, and cane required oxen, mules, and flume systems with enough carts and men to satisfy the demands of the mill. Even preparation for grinding required significant organization: repairs, upgrading mill and power technology, planting new fields, cultivating the ratoons, weeding, and fencing. Not unlike the New England factories of that era, workers put in six twelve-hour days a week. This work routine spilled over into all aspects of their lives—diet, shelter, store purchases, and social networks.

For the earlier commercial plantations of the 1840s and 1850s, this coordination of field and mill work was difficult to achieve. Workers had more independence, and the small scale of production demanded less of the environment. The plantation center changed



FIG. 2. Several plantations during this era used flumes as water transportation systems to get cane to the mill. Here workers are loading cane from ox carts onto the flumes. (Hawaiian Historical Society)

this. As crucibles of environmental and social experimentation, the plantation centers created the social institutions necessary for the industrial conquest of Hawaiian community life. Drawing largely from examples of the Haiku Plantation on Maui, we can see these changes emerge.³⁸

PLANTATION WORKERS: HIERARCHY, PAY, DISCIPLINE

The largest portion of the plantation workforce was Hawaiian—both men and women. Chinese men, Japanese men and women (after 1868), and haole men also worked for plantations. Field workers were usually Hawaiians, Chinese, and Japanese—all employed as indentured workers.

Many Hawaiians who worked the plantations in the 1850s preferred only three- to six-month contracts, much to the disappointment of the planters. Chinese who worked the plantations were

engaged for up to five years. Two hundred Chinese had arrived under contract in 1852.³⁹ It was also common then to hire Hawaiians by the day, particularly during peak seasons of harvesting, carting, and grinding. Most often the day workers were teamsters, some of whom provided their own oxen. The practice of day labor for teamsters continued into the 1860s.⁴⁰ This was the preferred status of many Hawaiian workers. On some plantations, Hawaiians would form work gangs under the supervision of a gang leader and hire themselves out by the day or week. This was a primary means by which Hawaiians resisted the harsh, authoritarian work system on Hawai'i's plantations.⁴¹

Work in the field included including fencing, wood cutting, weeding, planting, cutting, and tasseling and would be done in "gangs" under the supervision of an overseer, usually a foreigner. On Maui, he would frequently be a grown son of one of the missionary families (Hitchcock, Baldwin, and Bailey sons all worked for Haiku at some point). Individual work gangs were usually supervised by a Hawaiian *luna* (foreman). Their supervisory status was reinforced, in some cases, by provision of housing for *lunas* along with the foreign skilled workers.⁴² Some managers preferred to separate the Hawaiians from the Chinese (Haiku). Others (Lihue) mixed Chinese, Japanese, and Hawaiians in the fields. Pay and other privileges, too, differed by gender. Hawaiian women were paid considerably less than men. At one Wailuku plantation, women went on strike for fifty-cent wages. They were receiving only three meals a day as pay. They compromised at twenty-five cents per day.⁴³ Pay among Hawaiians also differed according to whether plantation housing was provided and food (poi) was included.

By the 1860s Hawaiians were signing one-year contracts instead of the three-to-six-month contracts of earlier years. Since plantation work was not preferred, many Hawaiians found other means to earn cash through sale of potatoes, wheat, pulu, coffee, goat skins, fungus, and other produce. Not until the markets for these crops diminished in the 1870s did Hawaiians find themselves with few opportunities but plantation work.

Desperate to find more workers, managers employed one interesting strategy to "sign up" Hawaiians. During the 1860s, each adult

Hawaiian male paid a combined tax to the government of at least \$5.00 per year, a large sum for the time. Tax collectors for each district would enumerate and collect poll, school, road, dog, horse, cart, property, and other taxes. At first, some taxes were paid in kind with such items as coffee, and the road taxes were always paid in labor. But cash soon became the requirement, forcing many Hawaiians to enter the cash economy on a full-time basis. Planters capitalized on this during the early 1860s and offered Hawaiians payment of the road taxes (and sometimes all of the taxes) in exchange for signing on to the plantation for a year. This incentive kept many Hawaiians “reshipping” year after year, especially when they carried a debt at the plantation store at the end of their contract year.⁴⁴

Chinese workers had different pay systems and different rules. Usually they contracted for five years. Each group of workers (Chinese as well as Hawaiian) might enter the plantation workforce under a different amount of pay for equivalent work. Unlike Hawaiians, Chinese were completely dependent upon the plantation for food, housing, and health care.

Skilled workers, usually haole men, formed a small portion of the workforce. Their work was in and around the mill. Socially separate from Hawaiians and Chinese, they lived in wood frame housing built by the plantation. Each plantation employed a blacksmith, carpenter, mason, cooper, and (for those with steam engines) engineers. Sometimes these positions were filled by a skilled Hawaiian tradesman—particularly that of cooper. The plantation manager and the sugar boiler were at the top of the plantation hierarchy. Skilled workers usually signed a contract for one year at wages considerably higher than those working in the field.

The separation of mill from field created a deep cleavage in the workforce. Reinforced by language and cultural differences, institutionalized by task and pay differences, this division of labor spilled over into the surrounding community. Further, the discipline necessary to meet the demands of the mill encouraged an authoritarian structure of command (overseer, *luna*), organized by tasks (cultivating, carting, weeding), and enforced by threat of legal or physical punishment. Haiku plantation managers considered it “policy” to discipline Chinese workers with the whip. Because Hawaiians were

the preferred workers, the “policy” was to discipline them with reason and “kindness.” Noted one manager: “My natives are punished with fines for all petty offences. . . . My Chinamen, if disobedient . . . I cowhide on the spot.”⁴⁵ This structure affected the development of early plantation communities, creating substantial divisions and conflict.⁴⁶

Violence on the plantation worked in two directions: one as a manager’s tool to coerce and subdue workers, the other as a form of worker response to harsh conditions. A rebellion among Chinese on Haiku plantation in 1865 resulted in the overseer’s shooting one worker in the leg. The manager reported: “I think, however, the result was a thorough subduing of the gang. It must be done by every plantation before they [Chinese] can be of any service.”⁴⁷ At that same time, he reported a suicide among the workers of the rebellion—something commonly reported in the Honolulu press during the 1860s among the Chinese on the plantations.

The courts enforced indentured servitude for the plantations. Those who deserted their contracts (especially those who had store debts) were rounded up by the sheriffs of other islands and, through the courts, made to serve their term, pay their debts, and pay an additional fine. However, workers would sometimes utilize the courts to lodge a complaint against managers.⁴⁸ The difficulty in leaving the plantation and appealing to the court often made this a limited tool for settling grievances.

CREATING DEPENDENCY: HOUSING, FOOD, AND THE PLANTATION STORE

The contract labor system proved an inadequate tool for anything more than signing up workers. Runaways were frequent. Rebellions over food provisions and unequal wages were fairly common. Managers devised additional measures to secure cooperation and obedience. Company housing, control of food rations, and the plantation store became key management strategies of the 1860s and 1870s, eventually becoming trademark institutions of the industrial plantation.

Housing

As labor demands increased and the Hawaiian population diminished, housing became a means to attract the preferred Hawaiian worker. An 1863 Haiku property lists these living quarters: manager's house, sugar boiler's house, cooper's house, and two small houses.⁴⁹ Most workers had their own houses on the earliest plantations. As American and European tradesmen and Chinese workers arrived, managers had to build company housing. The most senior skilled worker would often have his own house (sometimes because of family needs as well), as did the manager. Hawaiians were housed in grass structures when they were from outside the area and unable to find housing with other Hawaiians. Records indicate that Hawaiians who worked the plantations lived locally, had their own houses, and often put up workers from other areas.⁵⁰

Chinese workers, of course, had to be provided housing. Some managers complained that one drawback of Chinese over Hawaiian workers was that the skilled workforce would have to stop work in the mill and build houses when new arrivals were due.⁵¹

By 1872 the manager was busy constructing new houses, erecting twenty-two new homes during the previous year. "My native laborers appear well satisfied & I am gradually augmenting the number."⁵² The *Pacific Commercial Advertiser* noted that on the Makee plantation ('Ulupalakua) wood houses for Hawaiian workers provided a number of amenities:

[Q]uite a little village of laborers' houses is built up, affording—as some of them, in their spotless white, are already nestling among the green shade trees and bananas—a very charming picture. The houses are built of lumber, and give comfortable accommodation for two families, and have each attached to them a good cistern, closet, &c. and land sufficient for the cultivation of potatoes, vegetables, fruit trees, &c. The unmarried laborers are accommodated in houses containing generally four rooms, and have also their cistern and garden plot.⁵³

Makee also built a school for children and a church. The plan was to secure loyalty and socialize workers to the factory-like routine, as the newspaper observed:

Time will make the routine of labor and industry habitual to him, and strengthen the attachment of his plantation home. The children born, reared and taught on the plantation will follow in the footsteps, and in turn become laborers.⁵⁴

Company housing thus became one of the first defining features of the plantation center as Hawaiians moved from their own scattered homes onto the plantation and the watchful eye of managers. Housing also kept cultural groups separate, often reinforcing separate work gangs for each major cultivated field. Haiku, for instance, built Chinese barracks near Hāmākua Poko, where they worked in separate gangs, at some distance from Hawaiian housing located near fields closer to the Haiku mill.

Food

Food for plantation workers was a major expense. Poi and fish (salted salmon from the Northwest United States) was usually supplied by the plantation either as part of the wage or available through the plantation store for workers to purchase on their own (often as an advance on future wages). In either case, the food supply was the responsibility of the manager.

As traditional Hawaiian population centers declined, so did taro production in regions such as Wailuku. Irrigating sugar plantations also reduced taro production, which competed for available water. As a result, securing food for native workers proved a big problem for managers at an early date:

Paiai (hard, pounded taro) keeps up its extraordinary price, selling at an advance of at least a hundred per cent from what it used to sell two years ago. Where planters supply their laborers with food, the expense for paiai, still the most cherished food of the native laborer, foots up a big item in the general expenses of a plantation.⁵⁵

And reliable sources of taro were hard to find and maintain. Sometimes orders placed with distant villages for taro were late or not forthcoming:

There is a great scarcity of food on the Island, & unless we can devise a means of getting it from Molokai, shall soon be obliged to stop. We have 3 weeks food engaged for Haiku, but the Hamakuapoko people have had little or none for three weeks, so that gang is scattering in search of food, as I have promised them for the last three or four weeks that the vessel would next trip bring from Molokai. My orders seem not to have been received there in season to prepare food.⁵⁶

Eventually, the Haiku manager found another source—at Ke'anae on East Maui. But:

The supply at Keanae is not very large, and now the East Maui Plantation is drawing from there, and I hear a coaster had been in trying to purchase, offering 50% more than we give.⁵⁷

Another major food imported to the plantation was salted salmon in barrels, also an expensive item:

When salmon costs from twelve to eighteen dollars per barrel, the sum expended by a plantation alone is very considerable; and it seems strange that so much money should annually leave the country for the article of fish, which so plentifully thrive around these islands. . . . That fish are almost a luxury at Wailuku, Makawao and other places, is a well-known fact.⁵⁸

For plantations with numerous Chinese employees, rice was another major food expense. Managers complained of the high cost of rice, noting it as a major factor in the high proportion of fixed costs. Haiku manager George Beckwith said employment of Chinese workers compared unfavorably with employing Hawaiians because, with the cost of rice, Chinese were twice as expensive to feed.⁵⁹ According to Beckwith, twenty-eight workers ate fifty pounds of rice a day, plus meat, costing about \$5–\$6 a month more to feed each of them.⁶⁰

At one point, when cash was running low and supplies were short, Beckwith cut back on rice rations. He faced a rebellion from the Chinese workers.

Please send the Helen (schooner) back as soon as possible, as we shall be out of rice soon. . . . We have been able to reduce the Chinamen's

rice to 1½ lbs per day each, or less. We had a little rebellion among them a few days since and in subduing them one was shot by the overseer thro' the leg, without any serious injury to him.⁶¹

He requested a ton of rice per month to keep an adequate supply.⁶² His troubles did not end, though, as Haiku's Chinese workers appealed to the district magistrate:

The District Justice gave the gang of Chinamen their supper, and summoned me before him the next day. Listened to their complaint and my statement as to what I issue them daily. They wanted 2 lbs. rice per day. He ordered me to give them all they wanted to satisfy their appetite.⁶³

Food had become politicized. A heavy expense for the plantation, it was also a weapon for worker rebellion. Managers found one of the best policies for labor peace was adequate, available, and reasonably priced food supplies.

The Plantation Store

Aside from securing new workers, the biggest concern of the manager was whether or not current workers would "reenlist" at the end of their contract period. To solve this problem, the plantation store evolved as a means to encourage reenlistment. For Hawaiian workers not on "poi rations," an available source of cheap food such as taro, rice, and salted fish at the plantation store was important. For managers, creating debtors among the local Hawaiian population at the plantation store ensured a more permanent workforce. Store logs available for the 1860s at Lihue Plantation show that Hawaiians actually purchased little but salmon, cloth, and poi—all on credit. Therefore, on payday there was little pay to collect.⁶⁴

Haiku Plantation was typical. By 1865, a plantation store was in operation. The manager noted that when he paid off workers that "those nearest the store [are] most in debt."⁶⁵ The store also provided a vehicle to indebt the Hawaiians at Ke'anae who supplied the plantation with taro for the workforce. Manager W. Goodale noted in 1867 that "The people of Keanae are already indebted to us per-

haps \$400 and express a desire to contract to furnish food for a long time to come.”⁶⁶ But within three months he wrote further of his arrangement with the Hawaiians from Ke‘anae:

By means of the advances we have made we get our small supply at a reasonable rate, but I fear to draw too heavily upon them. They are trying to cancel their debts, and I am not anxious that they should succeed. And to hold them, partially promised that the agent would, on my order let the Schooner take some lumber there when they would furnish me a list of what they want. Lumber is in demand here, and is a good article for trade. We secure our best men by advancing it.⁶⁷

One month later, he was resolute about his strategy: “I think the vessel will have to take the lumber up. Speculators from Honolulu have . . . offer[ed] more for paiai than we give. I must keep them in debt.”⁶⁸ Food also became a tool to keep Hawaiians on the plantation, discouraging them from reshipping to other plantations:

It is very important to keep on hand [in the plantation store] a good supply of food. Otherwise natives get tired, & go off to Wailuku as soon as time expires. Besides they eat a great deal of cane if they have not plenty of food.⁶⁹

However, store policy was different for each group of workers. Hawaiians were allowed to take credit for the store, but Chinese were not. The manager was adamant about not incurring any debts—road taxes or other—for the Chinese.⁷⁰ It is unclear how long this policy lasted, but by 1872, the Haiku manager reported to his directors that the debt of just over two hundred laborers to the plantation was \$4,819.⁷¹ This is an average of \$25 per worker, assuming all were allowed to take credit at the store. Depending upon the ethnicity of the worker and when he or she contracted with the plantation, a monthly wage around 1870 was between \$4 (Chinese) and \$7 (Hawaiian) per month—making the indebtedness anywhere from six to three-and-a-half months’ worth of work.⁷²

The plantation store became a fixture of the community, especially in more remote areas where competition from independent merchants was nonexistent. In concert with plantation-provided housing

and food provisions, the plantation store served the purpose of creating workers dependent upon the plantation center for survival.

THE RISE OF THE PLANTATION AGENT

Dependency also worked in another direction. Always strapped for emergency cash and capital for machinery, plantations quickly became indebted to their agents. Before the Reciprocity Treaty of 1875, Hawai'i's sugars were subject to tariffs and uncertainty in the California market. When the Civil War boom ended in 1866, sugar became a risky business for the newly emergent plantation centers. In fact, several plantations failed at that point—Lahaina on Maui, Waiialua on O'ahu, Onomea on Hawai'i. Those that remained barely kept afloat.

So, how was it that the plantation centers continued to develop, increase their capital, and solidify their control? Part of the answer lies in the rise of the plantation agent. Organized originally to market sugar, supply plantations with goods and machinery, and advance cash to meet payrolls, agents such as Castle & Cooke, H. Hackfeld & Company, and C. Brewer & Company quickly became powerful actors in Hawai'i's sugar industry.

The plantation of the 1860s and 1870s was a different entity from the commercial sugar business of the 1850s. It was larger, more organized around a heavily capitalized mill, and managed from start-up to profitability through an agency system that controlled decisions from Honolulu. Those plantations with strong agents survived the difficult decade between 1866 and 1876. Records of Castle & Cooke, agent to the larger Haiku and Kohala plantations and to small growers such as A. H. Smith, J. M. Alexander, and E. Bailey, provide an account of the developing dependence of plantations upon their agents.⁷³

Plantations built during the 1860s boom were very expensive for the time. To raise capital, both Haiku and Kohala were organized as joint stock companies. The owners of Castle & Cooke (Samuel N. Castle and Amos S. Cooke) were part-owners of the two sugar companies.⁷⁴ Essentially, the agent, Castle & Cooke, enabled the construction of a technologically advanced large plantation possible.

And, during the difficult decade that followed the Civil War, Castle & Cooke kept Haiku and Kohala viable through trying setbacks and poor sugar prices.

The rapid expansion of Haiku Sugar Company's assets reflects the important role of the agent in the plantation center. Haiku's Board of Directors planned to spend a total \$40,000 to start the company.⁷⁵ Expenses quickly accelerated, however. The mill itself (purchased in Boston) cost \$25,000.⁷⁶ Shortly after erecting the mill, planting cane, and securing necessary buildings and tools, the company purchased another 5,300 acres in Hāmākua Poko for \$5,750 around 1860–1861.⁷⁷ By 1868, the plantation consisted of 5,500 acres plus one undivided third of 9,000 acres. Its assets totaled \$82,078, according to a report filed with the minister of interior.⁷⁸ The following year, assets were listed at \$91,563, and the crop for the year was estimated at 700–1,000 tons of sugar.⁷⁹ Haiku promised to be the largest sugar operation of the time.

Haiku's expenses jumped considerably in the next few years. New machinery—a vacuum pan, steam boiler, and engine—plus work on the planned Hāmākua Ditch cost another \$15,000. The Report to the Stockholders for 1872 notes that the company's real debt between 1871 and 1872 jumped from about \$14,688 to \$28,322.⁸⁰ The ability of a plantation such as Haiku to weather such increases in costs before profits from the sale of sugar materialized rested with the resources of its agents.

In the 1850s, the agent had only a limited role in plantation business, with no authority over management decisions. Most agents were merchants in Honolulu, Hilo, or Lahaina who arranged for delivery of sugar and other products to whaling ships. During the 1860–1888 boom period, however, agents regularly arranged for shipments to San Francisco, collecting a commission once the sale was completed. Hence, plantation profits came only after many months that included travel to California, storage in a San Francisco warehouse, and eventual sale.

With the purchase of the more expensive mills in Wailuku, Lihu'e, Kohala, and Ha'ikū, the agents became investors in the plantations themselves through debt assumption. When sugar sales slowed in 1866, agents began a regular practice of supplying goods for the

plantation store, making cash advances to pay the workers each month, and frequently lending plantations several thousand dollars for new machinery or repairs.

Gradually, agents assumed an increased power over day-to-day plantation decisions. As creditors, the agents wanted assurances that management practices were sound before extending further credit for repairs, new equipment, and further purchases of land. This extended, in time, to agency requests for regular reporting on mill efficiency, hiring decisions, and labor recruitment. In addition, the agents assumed more and more responsibility for finding Hawaiian, Chinese, and eventually Japanese workers for their plantations. Castle & Cooke's relationship with Haiku Plantation and with E. Bailey & Sons in Wailuku illustrates the emerging role of the agent in plantation management.

Haiku's financial statements and manager's letters to their agent show a repeated, often unanticipated, need for additional cash. Debt increased quickly before any profit could be realized from sugar sales in San Francisco. In 1862, Haiku's financial statement showed a debt of \$8,000 and an acknowledgment that an additional \$2,000–\$3,000 might be encumbered during the rest of the year.⁸¹ Although the report does not state the name of the creditor, it most likely was Castle & Cooke, plus several others. A financial statement for 1864 shows a debt to Castle & Cooke of \$6,027.50.⁸² By 1872, the debt to Castle & Cooke amounted to \$45,798.⁸³

Evidence of Castle & Cooke's involvement in day-to-day management and planning begins in 1872. Castle & Cooke asked Haiku manager S. T. Alexander to report regularly on crop estimates, yields, capacity of the mill, use of wood per ton of sugar, indebtedness of laborers, and information on other expenditures.⁸⁴ A similar letter went out to all planters for which Castle & Cooke was agent: A. S. Wilcox, Henry Johnson, O. R. Wood, Alexander & Baldwin, Kohala plantation, and Thomas Hughes. After this point, records indicate a continuing effort to collect data from its plantations, compare them with those of other agents, and make decisions regarding new purchases on this basis.⁸⁵

As agent for E. Bailey & Sons, a smaller plantation, Castle & Cooke, exerted considerable veto power in decisions concerning expansion and equipment. In 1870, E. Bailey & Sons owed Castle & Cooke

\$7,000, which the agent requested be reduced in twelve months. Unable to do this, the plantation was called upon to change managers (from E. Bailey to W. H. Bailey, another son). Castle & Cooke also prohibited the plantation from purchasing additional acreage. In 1873, the plantation debt to Castle & Cooke totaled \$20,192.⁸⁶ Correspondence with other planters, large and small, shows a similar effort to oversee management decisions.

By 1874, Castle & Cooke probably kept extensive records on plantation operations. Requests went out for an inventory of "acres of growing cane for 1875, probable crop, probable expenses and probable crop for 1876, with the number of acres taken off in 1874, the amount of the yield, weight of the juice and number of the gallons of juice, with the number of full days work at grinding."⁸⁷

Plantation managers, such as Samuel T. Alexander at Haiku, still maintained the authority to coordinate tasks, discipline individuals, and hire some workers. But, increasingly, major decisions concerning technology, planting regimens, plantation-store policy and inventory, and new investments became the responsibility of the agent. Letters from the plantation manager were regular reports of events on the plantation and explanations of problems, hiring decisions, labor troubles, and observations about operation of mill and field-work.

This pattern of increased managerial control from Honolulu agents became the norm in the Hawaiian sugar industry by 1890. Nearly every plantation in the Islands was tied to an agent who exerted considerable leverage over the plantation community and the lives of its inhabitants.

CONCLUSION

The plantation center was a product of Hawai'i's turn to sugar between 1860 and 1880. The five plantation centers that grew into major sugar production centers—Wailuku, Makawao, Hilo, Kohala, and Lihu'e—set the stage for the industrial plantation that dominated Hawai'i on the eve of annexation to the United States. The labor policies and management practices that evolved in these crucibles formed the bedrock upon which future sugar communities in Hawai'i were built. Company housing, food dependency, plantation

stores, and the agency system were institutions constructed during these years. Their legacy distinctively marked the Hawaiian landscape for decades well into the twentieth century.

NOTES

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¹ See Carol A. MacLennan, "Foundations of Sugar's Power: Early Maui Plantations, 1840–1860," *HJH* 29 (1995): 33–56.

² *PCA* 10 Feb. 1866. Based on site visits, this is probably the first systematic listing of plantations, their acreages, and number of workers available. It was compiled by Dr. G. P. Judd, who traveled the islands visiting each plantation for the editor of the *Pacific Commercial Advertiser*. Estimated tonnages were probably optimistic.

³ J. S. Walker, Memo: Statement Sugar Plantations of the Hawaiian Islands. 27 Aug. 1879, Interior Dept.—loose files, AH. Estimates of this survey of tonnage for the subsequent year (1880) were probably optimistic.

⁴ *HAA* 1890: 58–60.

⁵ *HAA* 1890: 28–29. Thirty-six of these plantations were incorporated and probably larger than the others, combining both mill and field operations. The remaining thirty plantations were unincorporated, generally smaller in size and number of laborers, and often included independent mills and growers.

⁶ *PCA* 19 Jan. 1867.

⁷ Many references to native protest are found in the following sources: Legislature—General Records, AH (beginning as early as the 1840s and extending into the 1870s); Interior Department—Land files, AH (beginning with the land sales of the 1850s and extending through the 1870s); and the *Pacific Commercial Advertiser*, which printed numerous letters during the debate over contract labor and Chinese immigration in 1869 and the Reciprocity Treaty of 1875.

⁸ In truth, by 1880 there were two other regions—Hāmākua and Ka'ū on Hawai'i—that could be characterized as "centers." However, because the growth of these two districts came very late in the 1870s as a result of the Reciprocity Treaty, and they did not develop large-scale operations until well into the 1880s, they are not discussed in this article.

⁹ *PCA* 9 Feb. 1867.

¹⁰ Interior Department correspondence for both land and other matters (AH) reflects the efforts by plantation managers to secure appointments of individuals (both Hawaiian and foreign-born) for posts of tax assessor, district judge, and land agent. Examples are also available in the manager's letters for Ha'ikū and Kohala, HMCS.

- ¹¹ Real property tax records (AH) provide information on numbers of inhabitants by name for each named parcel of land, making it possible to note how many Hawaiians, Chinese, and English-named individuals resided in specific locations. Hilo and Kohala district records date back to 1855, Lihue to 1860. Maui records prior to 1887 appear lost.
- ¹² PCA 3 Oct. 1861.
- ¹³ See correspondence in Interior-Land files, AH.
- ¹⁴ PCA 19 Jan. 1867.
- ¹⁵ PCA 30 Apr. 1864.
- ¹⁶ PCA 29 Jan. 1863.
- ¹⁷ Walker, Memo, 27 Aug. 1879.
- ¹⁸ 'Ulupalakua was not clustered near the other Makawao plantations, probably a half a day's ride by horse from Spencer's. It utilized different transportation routes for its sugars (Mākena Harbor), but it shared a similar elevation (with cane reaching maturity after twenty-four months), similar growing conditions, and political interests in the district. Judging by correspondence and news articles, there appears to have been a shared identity with other plantations of the Makawao center.
- ¹⁹ Board Meeting, April 1859, Haiku letters, HMCS.
- ²⁰ Undated penciled draft, located in the July-Dec, 1871, file, Haiku letters, HMCS.
- ²¹ The Brewer Plantation (formerly owned by Stephen Reynolds) was sold in 1863 to G. P. Judd & Sons. It burned in 1864, and the mill was taken to the Wilder plantation on O'ahu.
- ²² See Peggy Kai, "Chinese Settlers in the Village of Hilo before 1852," *HJH* 8 (1974): 39-75.
- ²³ PCA 19 Jan. 1867.
- ²⁴ Kai, "Chinese Settlers in the Village of Hilo."
- ²⁵ Walker, Memo, 27 Aug. 1879.
- ²⁶ PCA 9 Nov. 1867.
- ²⁷ PCA 10 July 1869.
- ²⁸ Real property tax records, Hilo District, 1860 and 1870.
- ²⁹ Walker, Memo, 27 Aug. 1879.
- ³⁰ Baldwin to Castle, 2 June 1866, Kohala letters, HMCS; PCA 19 Jan. 1867.
- ³¹ Baldwin to Castle, 31 Jan. 1872, Kohala letters, HMCS.
- ³² PCA 19 Jan. 1867; Walker, Memo, 27 Aug. 1879.
- ³³ See Lihue Plantation financial records, General Ledger 1862-1866, in the Hawaiian Sugar Planters' Association (HSPA) Plantation Archives, Univ. of Hawai'i Library.
- ³⁴ Arthur C. Alexander, *Koloa Plantation, 1835-1935: A History of the Oldest Hawaiian Sugar Plantation* (Honolulu: Honolulu Star-Bulletin, 1937) 81.
- ³⁵ Lihue Plantation, Time Books, HSPA Plantation Archives, UH.
- ³⁶ PCA 27 July 1867.

- ³⁷ See Ethel M. Damon, *Koamalu: A Story of Pioneers on Kauai* (Honolulu: Privately printed, 1931) vol. 2; Alexander, *Koloa Plantation*.
- ³⁸ The best documentation of plantation policies is found in the manager's letters from the Haiku Sugar Company covering the period of 1858 until about 1876. Documents from Lihue Plantation (store records, HSPA Plantation Archives, UH), Kohala Sugar Company (manager's letters, HMCS), and the *Pacific Commercial Advertiser* also chronicle similar developments on other plantations.
- ³⁹ RHAS, 1852, p. 69.
- ⁴⁰ See Haiku Letters, HMCS, during the 1860s.
- ⁴¹ See Edward D. Beechert, "Patterns of Resistance and Social Relations of Production in Hawaii," in *Plantation Workers: Resistance and Accommodation*, edited by B. V. Lal, D. Munro, and E. Beechert (Honolulu: U of Hawai'i P, 1993).
- ⁴² See Haiku letters, HMCS.
- ⁴³ PCA 10 Nov. 1866.
- ⁴⁴ Haiku letters are filled with references to using tax payments (either all or just the road tax) as a means for attracting Hawaiian workers during the 1860s.
- ⁴⁵ Beckwith to Savidge, 23 May 1866, Haiku letters.
- ⁴⁶ On labor abuse and violence during this period, see Edward D. Beechert, *Working in Hawaii: A Labor History* (Honolulu: U of Hawai'i P, 1985), chap. 3.
- ⁴⁷ Beckwith to Savidge, 30 Nov. 1865, Haiku letters, HMCS.
- ⁴⁸ Goodale to Savidge, 8 Apr. 1867, Haiku letters, HMCS.
- ⁴⁹ Haiku letters, 21 Oct. 1865, HMCS.
- ⁵⁰ Beckwith to Savidge, 27 Sept. 1865, 7 Oct. 1865, Haiku letters, HMCS.
- ⁵¹ Inventory of property, n.d., located in 1863 records, Haiku letters, HMCS.
- ⁵² Alexander to Castle, 18 Oct. 1872, Haiku letters, HMCS.
- ⁵³ PCA 24 Aug. 1867.
- ⁵⁴ PCA 24 Aug. 1867.
- ⁵⁵ PCA 26 Oct. 1867.
- ⁵⁶ Beckwith to Savidge, 18 Apr. 1866, Haiku letters, HMCS.
- ⁵⁷ Goodale to Savidge, 14 Mar. 1867, Haiku letters, HMCS.
- ⁵⁸ PCA 26 Oct. 1867.
- ⁵⁹ Beckwith to Savidge, 27 Sept. 1865, Haiku letters, HMCS.
- ⁶⁰ Beckwith to Savidge, 8 Nov. 1865, Haiku letters, HMCS.
- ⁶¹ Beckwith to Savidge, 30 Nov. 1865, Haiku Letters, HMCS.
- ⁶² Beckwith to Savidge, 6 Feb. 1866, Haiku letters, HMCS.
- ⁶³ Goodale to Savidge, 8 Apr. 1867, Haiku letters, HMCS.
- ⁶⁴ See Lihue Plantation, Store Logs (account books for plantation) for the 1860s, HSPA Plantation Archives, UH.
- ⁶⁵ Beckwith to Savidge, 10 July 1865, Haiku letters, HMCS.
- ⁶⁶ Goodale to Savidge, 3 Jan. 1867, Haiku letters, HMCS.
- ⁶⁷ Goodale to Savidge, 14 Mar. 1867, Haiku letters, HMCS.
- ⁶⁸ Beckwith to Savidge, 20 Apr. 1867, Haiku letters, HMCS.
- ⁶⁹ Beckwith to Savidge, 14 Mar. 1866, Haiku letters, HMCS.

- ⁷⁰ Beckwith to Savidge, 12 Nov. 1866, Haiku letters, HMCS.
- ⁷¹ Alexander to Castle, 20 Oct. 1872, Haiku letters, HMCS.
- ⁷² It is possible that some of the Chinese indebtedness was due to unpaid travel expenses from China to Hawai'i still on the plantation ledger. Under some contract arrangements, Chinese were docked pay once they reached the plantation to cover travel costs. Later, this practice was discontinued in order to attract workers.
- ⁷³ See the Castle & Cooke Collection at the Bishop Museum, which includes a card file that inventories incoming and outgoing correspondence for the agent, beginning with the 1860s and 1870s. The correspondence itself appears to be lost or destroyed. There are no available records for the Brewer and Hackfeld agencies.
- ⁷⁴ Lihue Plantation Company, under a different agent, was also organized as a joint stock company at the same time.
- ⁷⁵ Beckwith to directors, 28 Oct. 1859, Haiku letters, HMCS.
- ⁷⁶ Inventory, n.d. (probably 1863), located with 1863 records, Haiku letters HMCS.
- ⁷⁷ Stapenhorst to Prince Lot Kamehameha, 4 Oct. 1861, Interior-Misc., AH.
- ⁷⁸ S. N. Castle to F. W. Hutchinson, 7 Apr. 1868, Interior-Misc., AH.
- ⁷⁹ Castle to Hutchinson, 18 May 1869, Interior-Misc., AH.
- ⁸⁰ S. N. Castle to stockholders, 30 Oct. 1872, Haiku letters, HMCS.
- ⁸¹ Report of the Financial Affairs of Haiku Sugar Co., 2 Oct. 1862, Haiku letters, HMCS.
- ⁸² Comparative Statement of Affairs of Haiku Sugar Co., n.d. (located in folder Oct-Dec 1864) Haiku letters, HMCS.
- ⁸³ Statement of Receipts & Expenses of Haiku Sugar Co. from Oct 1 1871 to Oct 1 1872, Haiku letters, HMCS.
- ⁸⁴ Alexander to Castle, 18 Oct. 1872, Haiku letters, HMCS.
- ⁸⁵ Card file, 3.41, 23 Jan. 1871, Castle & Cooke Collection, Bishop Museum (hereafter referred to as C&C-BM).
- ⁸⁶ C&C-BM, 27 July 1870, 19 Sept. 1870, 5 Dec. 1870, 24 Feb. 1874, 25 Aug. 1873.
- ⁸⁷ C&C-BM, 17 Dec. 1874.

