

# THE ECONOMY OF HAWAII IN 1947

WITH SPECIAL REFERENCE TO  
WAGES, WORKING CONDITIONS, AND  
INDUSTRIAL RELATIONS

BY  
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**HOUSE CONCURRENT RESOLUTION 151, 80TH CONGRESS,  
2D SESSION**

*Resolved by the House of Representatives (the Senate concurring),* That the letter of the Secretary of Labor, transmitted to the House and referred to the Committee on Public Lands on February 4, 1948, together with the report on The Economy of Hawaii in 1947, with special reference to wages, working conditions, and industrial relations, which was prepared by the Bureau of Labor Statistics pursuant to the Organic Act of the Territory of Hawaii in 1900, as amended April 8, 1904, be printed as a document, and that 2,000 additional copies be printed, of which 1,500 shall be for the use of the House of Representatives and 500 copies shall be for the use of the Senate.

**II**

## LETTER OF TRANSMITTAL

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DEPARTMENT OF LABOR,  
OFFICE OF THE SECRETARY,  
*Washington, January 29, 1948.*

The Honorable JOSEPH W. MARTIN, Jr.,  
*Speaker of the House of Representatives,*  
*Washington 25, D. C.*

DEAR MR. SPEAKER: I have the honor to transmit herewith to the Congress of the United States a report on the Economy of Hawaii in 1947, with special reference to wages, working conditions, and industrial relations. This report was prepared by the Bureau of Labor Statistics under a special appropriation of the Seventy-ninth Congress, second session. It is one of a series of such reports which were called for in the organic law of the Territory of Hawaii in 1900, as amended April 8, 1904. The last report in this series was prepared in 1939.

This report, prepared under the direction of Ewan Clague, Commissioner of Labor Statistics, by James H. Shoemaker, with the assistance of Toivo P. Kanninen, describes the present economy of the islands and the effect of the war on their development with particular reference to labor conditions. It is of particular interest at this time when statehood for the islands is under consideration.

Yours very truly,

L. B. SCHWELLENBACH,  
*Secretary of Labor.*

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## PREFACE

The organic law of the Territory of Hawaii, entitled "An act to provide a government for the Territory of Hawaii," was approved on April 30, 1900. This was amended on April 8, 1904 (33 Stat. 164), to provide that:

It shall be the duty of the United States Commissioner of Labor to collect, assort, arrange, and present in reports in nineteen hundred and five, and every five years thereafter, statistical details relating to all departments of labor in the Territory of Hawaii, especially in relation to the commercial, industrial, social, educational, and sanitary condition of the laboring classes, and to all such other subjects as Congress may by law direct. The said Commissioner is especially charged to ascertain the highest, lowest, and average number of employees engaged in the various industries in the Territory, to be classified as to nativity, sex, hours of labor, and conditions of employment, and to report the same to Congress.

The last such report on labor conditions in Hawaii was rendered in 1939 and was issued as House Document 848 (76th Cong., 3d sess.) and as United States Department of Labor, Bureau of Labor Statistics Bulletin No. 687 entitled "Labor in the Territory of Hawaii—1939."

Because of the powerful impact of the war on the economy of Hawaii, the changes in the position of labor since 1939 have been very great. In addition to basic changes in the economy as a whole, there have been changes in wages, hours, and working conditions, a marked expansion in labor organization, and a modification in labor-management relations during the past 8 years.

At the request of the Delegate to Congress from Hawaii, Joseph R. Farrington, an appropriation was made (Public Law 549, July 26, 1946) for \$15,000 for the fiscal year 1947 to cover the cost of the survey.

The field work in the Territory of Hawaii covered the period February 6, to June 7, 1947. It included: (1) Economic surveys of the various islands of Hawaii; (2) conferences with representatives of labor groups and employer groups and with officials in the Territory; (3) observation and study of working conditions in Hawaiian industries; and (4) the surveying of wages and hours in all important island industries by race, sex, and occupation. In the wage survey, the method followed was that of obtaining a representative sample for each industry. These samples range from as low as 20 percent to as high as 80 percent of total employment in the industries covered.

The fullest cooperation was given to the survey staff in the compilation of these data by many organizations in the Territory, including the Office of the Governor, the University of Hawaii, the Territorial Department of Labor and Industrial Relations, the Department of Public Welfare, the central offices of Hawaiian firms, the Congress of Industrial Organizations, the American Federation of Labor, the Chamber of Commerce, and the leading social service agencies. Without their cooperation the study could not have been made.

Special credit is due to Mr. T. P. Kanninen, of the Wage Analysis Branch, Bureau of Labor Statistics, who prepared chapters 5, 6, 10, 11, 14, 15, 16, 17, 18, and 19, and provided technical advice covering all statistical work in the study. He conducted and personally supervised the wage aspects of the survey on all islands.

Miss Mary B. Perry, regional child labor consultant, Division of Labor Standards, United States Department of Labor, made a special investigation of child labor in the Territory which provided much of the information for the chapter on this subject.

The University of Hawaii provided a library of pertinent data, and supplied the services of Mr. K. Murata, agricultural economist, for a special study of nonplantation agriculture. Numerous government officials in the Territory and officials of labor and management organizations generously provided time and data to make the survey as complete as possible.

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PART I  
THE ECONOMY OF HAWAII

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NIIHAU



KAUAI

OAHU



Pearl Harbor Honolulu

Pacific

MOLOKAI



Kaunakakai

MAUI



Wailuku

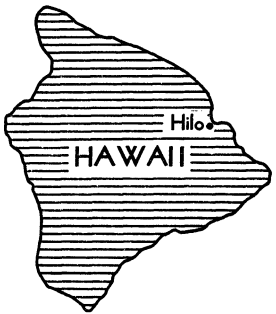
LANAI



Ocean

# TERRITORY OF HAWAII

ISLAND	POPULATION	1946
Oahu	358,911	
Hawaii	70,871	
Maui	45,336	
Kauai	34,689	
Molokai	5,258	
Lanai	3,630	
Niihau	211	



Hilo

HAWAII

## CHAPTER 1. THE NATURE OF THE ISLAND ECONOMY

### *Historical development*

When Hawaii is mentioned, the average person visualizes two things: A tourist paradise of colorful vegetation and the even more colorful remnants of primitive Hawaiian life, and a national outpost, powerfully supported by ground, sea, and air forces. Such a picture, while not incorrect, is decidedly not complete.

Quite apart from the tourists and those in the armed services, there are over half a million persons in the Territory. Their cultural background and their way of life is only vaguely understood by their fellow Americans. The spotlight on Pearl Harbor has tended to black out Hawaii. To those who live there, the Territory consists of the workaday world of the plantation, the factory, the office, and the store.

The purpose of this study is to portray the basic features of the economy of the islands, the economic relations among those who live there, and significant details in respect to the wages, hours, and working conditions of labor.

The statistical and other factual data will indicate the complexity of the industrial life of the islands. An interpretation of these conditions depends on an understanding of: (1) The historic development of the economy of the Territory; (2) the nature of its population and resources; and (3) the impact of the war on the economy in general and upon labor-management relations in particular.

A history of Hawaii might well be called "From Terra Incognita to the Crossroads of the Pacific in a Century and a Half." No other island area has sprinted from naked-primitive to streamlined-modern in so short a period. The Pacific was crossed as early as 1521, and the "Manila galleons" plied between the Philippines and Mexico for two centuries without once sighting the Hawaiian Islands. Because of this accident of history, Hawaii was the last important Pacific island area to be discovered (1778); yet, because of its strategic position, it was the first to achieve modernity.

Economically, the story of this change is a history of sandalwood, whales, sugar, pineapples, and tourists, accompanied by an ever-increasing dependence upon the American mainland. Socially, it is a story of the decline of a native population from 300,000 in 1778 to 10,831 in 1947, and of the influx of a complex mixture of races which has grown to a population now numbering half a million. Politically, it is a history of native kings exploiting their own subjects, of British-American rivalries, and of eventual annexation as a Territory of the United States in 1898. These developments cover four distinct periods:

(1) *The disruption of the primitive island culture (1778-1825).*— During this period Hawaii was primarily a provisioning point and a source of sandalwood for ships in the China trade. Occasionally, natives obtained passage abroad and sailors "jumped ship" to live ashore and join their blood with that of the islanders.

Even these relatively slight contacts between primitive Hawaii and civilization had a devastating effect on the life of the average Hawaiian. In 47 years the native population decreased from 300,000 to 125,000. Because of their long period of isolation, the natives possessed no immunity to "civilized" diseases. Venereal disease was a most potent cause of death, but even such simple maladies as measles, whooping cough, and common colds were fatal to thousands. Other factors played a part in the decline, including liquor, firearms, the struggle of island chiefs for power, and the exploitation of natives by their own rulers to obtain sandalwood with which to buy coveted western wares.

(2) *Whalers, factors, and missionaries (1825-60)*.—American whalers made Hawaii their provisioning and trading headquarters. This trade reached its zenith in the 1850's when more than 400 whaling vessels arrived in Honolulu annually. Trading concerns, called "factors," were established to service the whalers and gradually became the dominant enterprises in Honolulu. By a flexible adjustment to later economic changes, they have remained at the heart of the industrial and financial structure of Hawaii. During this time, American missionaries established themselves as permanent residents and became the guardians of island morals. They acquired property holdings which later proved to be of great value.

(3) *Expansion, annexation, and industrialization (1860-1930)*.—The growth of sugar production after 1860 greatly increased trade with (and dependence upon) the United States; hence it was the primary element leading to annexation in 1898. Between 1860 and 1930, annual sugar production increased from 572 tons to over 900,000 tons. Annual pineapple production rose from virtually nothing (the first pineapple plantation did not appear until 1885) to 12,000,000 cases, valued at \$50,000,000.

The total population, which reached a low of 56,897 in 1872, grew to 368,336 in 1930 in response to the constantly increasing labor needs of the plantations. Aggressive recruiting campaigns resulted in successive waves of immigrants in the following order: Chinese, Portuguese, Japanese, Puerto Ricans, Spaniards, and Filipinos, of which the Japanese were the most numerous.

Throughout this period there was a continuous trend toward consolidation of sugar lands into large plantations. By 1930 mass production agriculture based on a high degree of mechanization was typical of both sugar and pineapple productions; the typical plantation techniques were more comparable to a Detroit factory than an Iowa farm. This expansion of the basic plantation industries was accompanied by an equally rapid growth of (a) subsidiary industries directly dependent upon the plantations, (b) public utilities, (c) wholesale and retail concerns, and (d) service industries.

(4) *Stabilization and interracial adjustment (1930-41)*.—By 1930, nearly all of the arable land had been brought under cultivation; hence the annual output of the plantations had reached near-optimum levels under existing conditions of demand and costs. The importation of alien labor had virtually ceased; hence the rates of population growth had dropped to more normal levels. Interracial adjustments had been made through a school system in which all races learned to work and play together. There was also a rapid rise in interracial marriage. For these reasons, a remarkable degree of interracial



tolerance and cooperation had developed prior to the attack on Pearl Harbor on December 7, 1941.

This brief summary indicates some of the significant factors which have determined the character of the island economy. The economic developments of the war and postwar years will be discussed in greater detail in the body of the report.

#### *Area and resources*<sup>1</sup>

The total area of the Territory is 6,435 square miles, which is about one-third larger than the State of Connecticut. Due to the volcanic origin of the islands, the central area of each island is mountainous and much of the soil is rocky, or is covered with lava or ash. Only 10 percent of the land is arable, and only 8 percent is actually under cultivation.

In common with the other islands of the central Pacific area, mineral resources are lacking. There are no ores, metals, or mineral fuels of any sort, and there is an insufficient amount of clay for commercial exploitation. Even building stones are limited in variety. These facts place strict limits upon the industrial possibilities of the Territory. Aside from the canneries, the sugar mills, and the subsidiary industries dependent upon them, there is little in the way of manufacturing.

In spite of the small percentage of arable land, it has been possible for Hawaii to develop a significant agricultural economy. This is because such lands as are available can be farmed with extraordinary intensity. The presence of a large supply of ground water makes possible a scientific control of cultivation by virtue of irrigation systems which are used, not only to provide water, but also to distribute fertilizer.

An even greater boon to Hawaiian agriculture is the remarkably equable climate. The average temperature is 74.9° F. and shows less than 6.5° difference between the average of the warmest and the coolest months.<sup>2</sup> This even climate makes it possible to plant crops any day of the year. It is not uncommon for small truck gardeners to raise six to eight crops on the same land in a single year. With a controlled water supply and a warm, even climate, extraordinary results can be achieved.

#### *Population*

The total population of the islands passed through a sharp decline from an estimated 300,000 in 1778 to a low of 56,897 in 1872, followed by an equally remarkable rise to 525,477 on July 1, 1947.

The migration to the islands, at first meager, consisted of transient traders, missionaries, and a few pioneer farmers, and was accompanied by a sharp drop in the native population. During the first century following the discovery of the islands in 1778, the native Hawaiian population declined to less than 50,000. Today there are only 10,831 pure-blooded Hawaiians, representing only 1 in 50 in the total population. The number of part-Hawaiians, on the other hand, is increasing and shows the highest birth rate of any racial classification.

Up to 1872 the principal immigrants were American, British, and Chinese. From then on, the bulk of the immigration was in direct

<sup>1</sup> An excellent analysis of the natural resources of Hawaii is contained in the First Progress Report of the Territorial Planning Board, February 1939, Honolulu, T. H.

<sup>2</sup> The lowest temperature recorded at sea level was 52° in February 1902 and the highest was 90° in October 1891. Even such moderate extremes are rare in Hawaii.

response to the labor demands of the rapidly expanding plantation system. The plantation policy was to obtain young and vigorous unmarried males (largely low-wage oriental laborers) to work during their most productive years, after which they were returned to their homelands. Thus, the problems of the support of families and the care of the aged were avoided and maximum labor was obtained per dollar expended.

TABLE 1.—*Population of Hawaii*<sup>1</sup>

Year	Total population	Change from preceding census	Year	Total population	Change from preceding census
1832.....	124, 449	.....	1930.....	368, 336	+112, 424
1836.....	107, 954	-16, 495	1940.....	423, 330	+54, 994
1850.....	84, 165	-23, 789	1941.....	465, 399	+42, 069
1860.....	69, 800	-14, 365	1942.....	474, 351	+8, 952
1872.....	56, 897	-12, 903	1943.....	483, 363	+8, 012
1878.....	57, 858	+1, 068	1944.....	492, 379	+8, 016
1890.....	89, 990	+32, 005	1945.....	502, 122	+9, 743
1900.....	154, 001	+64, 011	1946.....	519, 503	+17, 381
1910.....	191, 909	+37, 908	1947.....	525, 477	+6, 974
1920.....	255, 912	+64, 003			

<sup>1</sup> 1832 to 1890, inclusive, are estimates of the Territorial planning board, the figures for 1900 to 1930, inclusive, include Army and Navy personnel whose posts of duty were in the Hawaiian Islands and are based on the official United States census. The figure for 1940 is as of Apr. 1, and is based on the United States census of that year. The figures for 1940 to 1947, inclusive, refer only to civilians. Those for 1941 to 1947 are as of July 1 in each case, and are based on estimates of the Board of Health, Territory of Hawaii.

<sup>2</sup> Population figures for 1941 to 1944 are not as accurate as for other years. The sudden evacuation of women, children, and tourists, the importation of large numbers of mainland workers, the draft, the movement of service personnel, the continuous state of war emergency, the shift from civilian to military government, and the insistence upon secrecy regarding conditions in Hawaii make it difficult to obtain dependable population figures for the war years. In 1942, there was a defense registration which provides a check against the board of health estimates. This registration indicated the population to be 414,407, in 1942, a difference of 59,944 as compared with the board of health estimates, or more than one-tenth of the population. The defense registration figure should be reasonably accurate for the resident population but its coverage of mainland defense workers was incomplete. The United States census figure for 1941 is 437,120 and for 1942 is 442,420, and thus falls between the registration figure and the board of health estimates.

The first large groups of imported migrants were the Chinese, who have since achieved the economic and social advantages which accrue to the early settler. There followed importations of Portuguese between 1878 and 1900. During this time, Japanese also began to be imported in increasing numbers. Due to the industry of the Japanese (and hence continued importation) and to the practice of bringing in "picture brides," they rapidly assumed a major position in the total population. For the 35 years prior to the war, their numerical superiority was never seriously threatened. The immigration of Japanese sharply declined with the "gentlemen's agreement" of 1908 restricting Japanese immigration to the United States. There were, on July 1, 1947, 171,983 Japanese in the Territory, exceeded only by the total number of Caucasians (including all nationalities), which amounted to 172,967.

Due to the decline in oriental sources of labor supply, the sugar planters of Hawaii entered into arrangements with steamship companies to bring Filipino laborers into the islands in increasing numbers between 1908 and 1935.<sup>3</sup>

Average annual immigration from the Philippines to Hawaii was 5,300 between 1920 and 1925, and 7,700 between 1925 and 1930. It

<sup>3</sup> In 1920 Japanese plantation workers in Oahu, with the support of Japanese on other islands, organized a strike which was costly to the planters. In 1924, the Exclusion Act entirely prohibited Japanese from entry into the United States, including the Territory. For these reasons, Filipino immigration increased after 1920.

also should be noted that the average annual emigration of Filipinos from Hawaii to the American mainland was 700 between 1920 and 1925 and 1,800 between 1925 and 1930. Following 1930, immigration declined, and emigration increased. The Filipino population in Hawaii decreased from 63,052 in 1930 to 52,569 in 1940. In 1935 immigration of Filipinos to Hawaii and the mainland was limited to 50 a year.<sup>4</sup>

Caucasians were the earliest migrants to Hawaii and throughout the whole period since discovery of the islands show a slow continuous growth in numbers. Because of restrictions on oriental immigration, the mainland now constitutes the only significant source of migrants to the Territory. Such migrants do not seek employment as plantation field workers but enter the skilled trades, the offices, and the mercantile establishments. They became decidedly important during the war years when large numbers of construction workers were imported by the armed services. Many of them have returned to the mainland but a considerable residue remains as an addition to the labor force in the Territory.

TABLE 2.—*Population by racial antecedents, Territory of Hawaii*

	1943	1944	1945	1947 (July 1)
Hawaiian.....	12, 617	11, 802	10, 988	10, 761
Part-Hawaiian.....	56, 932	59, 179	61, 422	67, 082
Puerto Rican.....	8, 775	8, 932	9, 090	9, 548
Caucasian.....	155, 664	162, 684	172, 583	172, 967
Chinese.....	29, 621	29, 813	30, 005	30, 279
Japanese.....	162, 690	164, 268	163, 300	171, 983
Korean.....	6, 941	6, 970	7, 042	7, 216
Filipino.....	49, 261	47, 863	<sup>1</sup> 46, 464	54, 327
All others.....	862	868	1, 228	1, 314
Total.....	483, 363	492, 379	502, 122	<sup>2</sup> 525, 477

<sup>1</sup> Does not include 6,126 Filipinos brought to Hawaii in the latter part of 1945 under contract to work on sugar and pineapple plantations.

<sup>2</sup> Includes 75,623 aliens; 32,135 of these were Japanese and 37,260 were Filipinos.

Source: Board of Health, Territory of Hawaii.

TABLE 3.—*Births by racial antecedents, Territory of Hawaii, 1943-45*

	Total births			Rate per 1,000 population		
	1943	1944	1945	1943	1944	1945
Hawaiian.....	232	238	228	17. 8	19. 5	20. 1
Part Hawaiian.....	3, 008	3, 102	3, 212	53. 8	53. 4	53. 3
Puerto Rican.....	228	300	328	33. 1	33. 9	36. 4
Caucasian.....	1, 518	1, 828	2, 030	10. 0	11. 5	12. 2
Chinese.....	614	797	781	20. 8	26. 8	26. 1
Japanese.....	3, 990	4, 491	4, 505	24. 6	27. 5	27. 9
Korean.....	171	193	226	24. 7	27. 7	32. 3
Filipino.....	1, 092	1, 202	1, 221	21. 8	24. 8	25. 9
All others.....	64	60	67	74. 6	69. 4	47. 6
Total.....	10, 917	12, 211	12, 598	22. 8	25. 0	25. 5

Source: Board of Health, Territory of Hawaii.

<sup>4</sup> But the act of 1935 included an arrangement whereby the Secretary of the Interior could admit Filipinos to Hawaii to work under contract conditions. This power was invoked in 1945. Because of the scarcity of plantation laborers, 6,126 Filipinos were brought in; 4,237 were assigned to the sugar plantations and 1,889 to the pineapple plantations. (See ch. 7 of this report.)

TABLE 4.—Deaths by racial antecedents, Territory of Hawaii, 1943-45

	Total deaths			Rate per 1,000 population <sup>1</sup>		
	1943	1944	1945	1943	1944	1945
Hawaiian.....	345	343	315	26.5	28.1	27.6
Part Hawaiian.....	393	337	323	7.0	5.8	5.4
Puerto Rican.....	93	73	87	10.7	8.2	9.6
Caucasian.....	613	653	567	4.0	4.1	3.4
Chinese.....	251	277	264	8.5	9.3	8.8
Japanese.....	369	375	355	5.4	5.4	5.3
Korean.....	86	79	97	12.4	11.4	13.9
Filipino.....	309	338	315	6.2	7.0	6.7
All others.....	29	9	17	29.1	10.4	12.1
Total.....	2,988	2,984	2,840	6.2	6.1	5.7

<sup>1</sup> Civilian population only.

Source: Board of Health, Territory of Hawaii.

### *Present population trends*

Some racial groups, such as the Japanese, tend to resist racial intermarriage, whereas others, such as the Hawaiians, have very freely intermarried. The fundamental tendency is toward a general lessening of interracial barriers. The Territorial board of health estimated that 27.2 percent of the marriages in 1946 were interracial. Part-Hawaiians are now six times as numerous as Hawaiians and even the Japanese (particularly Japanese women) show an increasing number of outmarriages.

An abnormality of the population of Hawaii is the predominance of males, particularly among Filipinos. The last census (1940) indicated 137.6 males per hundred females. This is due to the plantation policy, in previous years, of importing unmarried males. With the passage of time this abnormality is disappearing because as unmarried males die, their places are being taken by the children of those now living in the Territory, thus gradually establishing a normal sex distribution.

### *Urbanization*

In 1890, of a total population of 89,990 persons, 25.5 percent was urban and 74.5 rural. By 1938, 41.2 was urban and 58.8 rural. This trend toward urbanization refers primarily to the growth of the city of Honolulu which, on July 1, 1947, contained a population of 268,913, or more than half of the total population of the entire Territory. The next largest city in Hawaii is Hilo, with 29,111. Most of the population growth of the Territory during the past decade is thus represented by an increase in the size of Honolulu. To date, there has been no diminution in this urban trend. The islands, other than Oahu, actually experienced a decline of 5.8 percent between 1940 and 1946.

It cannot be too strongly emphasized throughout the analyses presented in this report that the high degree of urbanization is one of the remarkable features of the Hawaiian economy. The island of Oahu is only 604 square miles in area and it is quite possible to commute from any point in the island to the Honolulu business district. (For area of the islands, see table 5.) In fact, a number of the communities on the opposite side of the island are residential areas for those who work in Honolulu. The island of Oahu, repre-

senting less than one-tenth of the total area of the Territory, nevertheless contains nearly three-fourths of its total population.

Table 6, covering the population by islands for 1940, 1945, and 1947, indicates (1) the wartime shift in the population from the other islands to Oahu, (2) the return to the prewar population levels on the other islands between 1945 and 1947, and (3) the sharp rise in the population of Oahu (Honolulu) which was primarily due to migration from the mainland.

Although the mechanization of plantations has contributed to the cityward trend, there are other fundamental factors which give Honolulu such a preeminent position.

Honolulu dominates the financial and industrial life of the islands for the following reasons:

(1) Hawaii is separated from the markets on which it must depend by more than 2,000 miles. Honolulu is the point of contact for all of the islands with the rest of the world.

(2) Our most important Hawaiian military and naval outposts are situated in and near Honolulu. They provide occupational opportunities for those enterprises which serve the military personnel and for the skilled workers that build and maintain Army and Naval installations.

TABLE 5.—*Geographic characteristics of the Territory of Hawaii, by islands*

Island	Area		Coast line in miles	Highest altitude in feet
	Square miles	Acres		
Hawaii.....	4,030	2,579,000	318	13,784
Maui.....	728	466,000	152	10,025
Oahu.....	604	387,000	152	4,025
Kauai.....	555	355,000	108	5,170
Molokai.....	260	166,000	104	4,970
Lanai.....	141	90,200	52	3,370
Niihau.....	72	46,000	49	1,281
Kahoolawe.....	45	29,000	36	1,485

Source: Territorial Planning Board.

TABLE 6.—*Population of principal islands and island groups,<sup>1</sup> Territory of Hawaii, 1940, 1945, and 1947*

Island or island group	1940	1945	1947
Oahu.....	258,256	348,045	360,274
Hawaii.....	73,276	70,049	73,690
Maui (including Molokai and Lanai and Kalawao County) <sup>2</sup> .....	55,980	51,378	56,319
Kauai (including Niihau).....	35,818	32,650	35,194

<sup>1</sup> The figures for 1940 are as of Apr. 1, and are based on the United States census of that year. The figures for 1945 and 1947 are as of July 1 in each case, and are based on estimates of the Territorial board of health, bureau of vital statistics.

<sup>2</sup> The population of Molokai as of July 1, 1947, was 5,028 and of Lanai on the same date was 3,441. Lanai consists primarily of a single, large pineapple plantation.

(3) Honolulu is the headquarters for practically all large island enterprises and is the center for the air and water transport systems which serve the islands.

(4) Honolulu is the most important tourist center in the Territory. Tourists contribute to the size of the city, not only because of the

tourist population, but also because of the many occupational opportunities which the presence of tourists creates in the city.

(5) Honolulu is the administrative center for Territorial and Federal agencies and for educational and cultural institutions.

(6) The unemployed persons in the Territory tend to concentrate in Honolulu because it is the best place to make contacts for new jobs.

Conditions in Honolulu, therefore, represent a significant part of any survey of working conditions of the Territory as a whole. In its physical equipment and municipal services, it is not unlike other American cities. It possesses efficient systems for water supply (38 million gallons daily), sewerage disposal, street lighting, fire protection, police protection, emergency hospital service, public education, an excellent system of public libraries, and an unusually large number of churches.

The city contains 113 parks, playgrounds, beach areas, and street parking strips, scattered throughout Oahu. Athletic fields include facilities for tennis, baseball, basketball, football, and minor sports. The city has shown a strong social viewpoint in its policies. On the whole, one is impressed with the width and cleanliness of the streets in the better housing areas. There are some districts which are an exception to this statement, particularly those in which mixed oriental populations live. In such areas, conditions are comparable to the slum districts of large mainland cities. The congestion which would otherwise obtain in such areas is partially relieved by the year-round summer climate and the ready access to parks and beaches, making the daily life of the people essentially an out-of-door life.

### *Summary*

An economy is the result of the adaptation of a community to the basic conditions in which it exists as truly as vegetation represents an adaptation to the climate and the soil in which it grows. Before the beginning of the war the economy of Hawaii had achieved a successful adaptation to the rigid framework of conditions which have determined its character. These conditions are:

(1) A central position in the Pacific which provides contact with world commerce and gives Hawaiian life its cosmopolitan character.

(2) The lack of minerals which necessarily restricts manufacture to the processing of agricultural and marine products and the servicing of the plantations.

(3) The sharp variations in topography, rainfall, and soil which restrict agriculture to less than one-tenth of the total land area.

(4) The combination of a large supply of ground water and of constant summer weather which makes possible a year-round and remarkably intensive cultivation of that land which is arable.

(5) A complex population of widely variant and predominantly oriental races which provides the manpower on which the economy must rely.

(6) The close administrative and trade connections with the mainland which have made the Hawaiian economy an integral part of the American economy as a whole.

The essential economic fact emerging from the adaptation of Hawaii to these conditions has been a transition from the primitive self-sufficient economy of the native Hawaiians to a modern specialized economy tightly geared to American markets. To obtain construction

materials, clothes, shoes, motorcars, industrial equipment, and other items necessary to the maintenance of present standards (including 65 percent of the food consumed in the Territory) Hawaii possesses only four coins. These are: (1) Sugar, (2) pineapples, (3) services to the armed forces and to tourists, and (4) fish and other marine products. Barring some unexpected technical development, these, and only these, are available to maintain or increase present standards. Under such conditions, the economic life of the Territory has been channeled toward a specialization in sugar and pineapples, toward a unification of plantation policies in order to obtain the advantages of agricultural mass production, and toward those economic and political relations with other parts of the United States which would provide the basis for stability and the sound growth of Hawaiian industry.

## CHAPTER 2. THE ECONOMIC EFFECTS OF THE WAR

In analyzing the impact of 4 years of war on the economy of Hawaii, it is necessary to consider a 2-year period of prewar defense development and the period of postwar adjustment (an adjustment not yet completed). Thus in dealing with the effect of the war, we are covering almost one-fifth of the total period of American Territorial status in Hawaii.

As a Territory of the United States, the Hawaiian economy had passed through two basic developments before the war began: (1) The expansion of the basic plantation industries to optimum levels between 1898 and 1930, and (2) a general economic stabilization at those levels during the following decade. Although there were a few strikes and other minor crises, these years show on the whole a steady improvement in wages, hours, and working conditions, and in mechanization designed to reduce the demands upon labor and to increase productivity. The economy of Hawaii would not have remained static had there been no war; many of the changes which are now occurring were certain to come. But it appears probable that they would have come more slowly, that the adjustments might have been made with less friction, and that in large part the serious disruption of the postwar years might have been avoided had it not been for the war.

### *Changes in social and economic conditions after Pearl Harbor*

The attack on Pearl Harbor came as a blow to the United States and produced immediate changes in the whole structure of world power. The direct physical impact of this blow on the relatively small and highly dependent economic structure of Hawaii was so sudden and intense that it transformed the Territory to a war economy overnight in a series of shocks which permeated every aspect of the economic, social, and political life of the islands.

Hawaii is traditionally a place of hospitality, friendliness, and good will. In a few hours this atmosphere was changed to one of distrust, suspicion, and uncertainty. Over 3,000 soldiers lay dead or dying; the Navy's best ships were in flames or at the bottom of Pearl Harbor; airfields were strewn with smoking, riddled planes, and there was no guarantee that the Japanese would not return in force at any time.

There were wide differences of opinion regarding the attitudes and activities of American citizens of Japanese descent.<sup>1</sup> Interracial antagonisms, arrests of persons suspected as enemy agents, rumors, and false reports were the order of the day. A fever of defense activity, so simple and direct as to reveal starkly the inadequacies of the Territory's remaining defense equipment, engendered an atmosphere of fear bordering on hysteria.

In such an atmosphere, the acquiescence of civil officials to military control was understandable. There followed rapid changes in the

<sup>1</sup> Within 48 hours, however, as a group they had proved that they were patriotic Americans and were urgently seeking opportunities to serve. They constituted a purposive, hard-working force and performed the most menial tasks with unwavering loyalty in the face of criticism, suspicion, and even mistreatment. The record of the Americans of Japanese descent is one in which all oriental and Caucasian groups in Hawaii take great pride today. Instead of being the disruptive element which many Army and Navy officials expected they would be, they soon became a steadying influence on which the people of the Territory could rely with the utmost confidence.



location and character of authority accompanied by a bewildering multiplicity of proclamations based on a new set of premises and objectives. The Territory found itself operating within the framework of rigid restrictions backed by military power from which there was no appeal as long as the military government lasted.

Registration, fingerprinting, inoculations against the possibility of bacteriological warfare, the erection of bomb shelters, the alteration of cars and houses to comply with black-out restrictions and other emergency activities (in addition to their regular duties) commanded the time and the utmost energy from all residents.

Women, children, and tourists were hurriedly loaded on steamers and sent back to the mainland. A significant source of island income, the tourist trade, thus disappeared. A black-out and a 10-o'clock curfew were ordered with very heavy fines for any infraction of either.

Hawaii became a community of men so dominated by urgent war demands and rigid military restrictions that little social life was possible.

The most immediate evidence of the change of administration was the military control over transportation. On every island the transport of military equipment and supplies was given first priority. The typical vehicles on the streets and highways became Army trucks and jeeps. Every convenient space in the Honolulu area was taken over for the storage of war supplies and to establish local stock piles for later use in the Pacific area.

Interisland shipping was thoroughly militarized and, in view of the constant danger of submarine attack, it was necessary to convoy shipments between islands. The movement of persons from one island to another was subject to rigorous control.

Regular commercial shipments from the mainland ceased. Military shipments and personnel received first priority and commercial shipments could be made only by clearance through military channels. In spite of these impediments, the volume of shipments to Hawaii rose rapidly, including (1) military supplies for local and for South Pacific operations (not only ordnance material, but also food, clothing, and medical supplies for the armed forces); (2) the importations necessary to service the armed forces in the Territory (supplies for laundries, local transportation, hotels and restaurants, bars, and local retail establishments); (3) the increased importations needed to supply the mainland workers brought to Hawaii for defense construction; and (4) construction materials.

It is difficult now to recapture the extreme sense of insecurity which permeated the islands at that time. It was clearly recognized then that local forces were insufficient to repel a full-scale landing by the Japanese, nor was it certain that the transportation of supplies from the mainland to Oahu or their distribution from Oahu to the other islands could be maintained.<sup>2</sup> Steps were taken, therefore, to make each island as self-sufficient as possible. To this end, a special program was undertaken by all plantations to conserve equipment by the utmost care in maintenance, pending the time when it would be possible to obtain new equipment from the mainland.

<sup>2</sup> On Dec. 13, 1941, the transport *Royal T. Frank*, carrying troops, ammunition, and artillery from Oahu to Hilo was sunk off Maui, presumably by a Japanese submarine. On Dec. 30, 1941, *Nawiliwili* on Kauai, *Kahului* on Maui, and *Hilo* on Hawaii were shelled by unidentified craft. Little damage was done but the obvious inability of any of the islands to repel a full-scale Japanese landing and the later sinking of a considerable quantity of American shipping between Hawaii and the mainland served to underline the constant possibility of isolation or seizure of one or more of the islands by Japan.

Truck gardening was sharply expanded on all islands. On Oahu, for example, the production of vegetable crops rose from a quarter of a million to over a million dollars in value. This program was based on a Federal farm cooperative (Iowa plan, United States Department of Agriculture standards). Similar programs were undertaken in other islands. Stocks of food and other supplies on hand were controlled by temporarily "freezing" them and later releasing them gradually under a system of priorities and price control. Hawaii suffered the same difficulties of price control as did other parts of the United States, but their effects were more pronounced. Very few items were subject to ration-card control. Controls were exercised by military allocations of shipping space.

The overwhelming demand for labor for the repair of bombed areas and for new wartime construction caused unemployment to disappear. War demands are imperative emergency demands, and in the islands they produced sudden severe strains in the labor market. All able-bodied men (and later even women) were required to register for employment. Those who remained in Hawaii, including able-bodied minors, became a part of the working population. A larger percentage of the total population of the islands was actively at work during the war than was at work in other parts of the United States. In the early months of the war, although the civilian population decreased, the labor force increased. The labor supply was further augmented in 1942, 1943, and 1944 by the importation of large numbers of mainland workers. These men more than offset the decline due to the evacuation. To their numbers must be added the great influx of Army, Navy, and Marine personnel, including those stationed in Hawaii and those temporarily there en route to and from far eastern bases. The troops stationed on the island of Kauai, for example, numbered 17,000 at the peak, which is equivalent to over one-half of the civilian population of that island. The increase in numbers on Oahu was even greater.

To support the wartime activities in the Territory, large sums of Federal funds were appropriated. Part of these funds flowed directly into the island economy for (a) the purchase or lease of land and buildings for military purposes; (b) the direct purchase of sugar, pineapples, and other island products for use of the armed forces, (c) payments for services of plantation labor (under contracts between the Army engineers and the plantations); (d) direct payments to Hawaiian construction companies; and (e) direct payments for local services. There was thus a vast inflow of funds into Hawaii which far more than offset any wartime losses due to the disruption of normal economic activities.

In addition to these direct payments, there were large indirect expenditures. A considerable portion of the income paid by the Federal Government to the officers and enlisted men in the Army, Navy, and Marine Corps was in turn spent in Hawaii. In a similar way, the earnings of imported workers and of personnel on ships in Honolulu and Pearl Harbor were spent for food, transportation, amusement, and other services of the Hawaiian economy. Added to such expenditures were the considerable sums spent by the Red Cross, the USO and other agencies designed to assist the armed forces.

The inevitable effect of this direct and indirect flow of funds on the relatively small economy of Hawaii was a sharp stimulation of the economic activity everywhere. Every hotel, restaurant, barbershop, retail establishment, amusement center, curio shop, drug store, taxi-

cab, and bar had more customers than could possibly be satisfied. Any such enterprise, no matter how badly managed or how poorly located, could be operated at a profit.

The statistical records of these changes are fragmentary. The chaotic conditions following the attack on Pearl Harbor, the sudden expansion and rapid turn-over of personnel, and the understandable secrecy surrounding the nature and extent of defense construction account for this deficiency (particularly in 1942-43).

Some indication of the effects of the war on the economy of Hawaii is to be found, however, in (1) the volume of civilian employment by the armed services; (2) tables covering various types of defense expenditures; (3) the growth of bank deposits and bank clearings in Hawaii; and (4) the changes in the balance of trade between Hawaii and the mainland.

#### *Employment of civilians for defense work*

Civilian employment by the Army and Navy rose from 6,338 in 1939 to a level between 58,000 and 71,000 in 1944-45. If part-time employees and related employees in the wartime service agencies are added, the employment peak was slightly over 82,000. While this figure does not appear great by mainland standards, it was decidedly significant in relation to the small economy of Hawaii. A proportionate volume of employment on the mainland (relative to the total population of the United States) would exceed 22,000,000, which is large by any standards.<sup>3</sup>

Figures on Navy employment of civilian workers by months are not available. Navy employment fluctuated more widely than Army employment due to the sharp variations in the volume and intensity of repair work on Naval vessels. Civilian employment by the Navy rose from 3,138 in 1939 to 28,530 in 1943. Between 1943 and 1946 it remained in the neighborhood of 29,500 with occasional sharp increases to take care of emergency repair work. A peak of 37,252 civilian employees was reached in May 1944. Employment dropped to 18,247 in January 1947 and continued to decline rapidly throughout that year.

Of the total civilian employment by the Army, 75 percent was engaged in construction activities; two-thirds of all such construction workers were under the Army engineers and one-third were employees of Hawaiian contractors under Army contracts. Of the remainder, employees of Air Force and Ground Force depots, clerical and administrative personnel, and hospital employees constituted the bulk of the employment.

TABLE 7.—*Army employment of civilian workers, 1943-47*

Year	March	June	September	December
1943.....	1 31,445	30,399	28,697	28,183
1944.....	27,342	25,181	26,085	28,334
1945.....	28,314	28,461	26,271	23,689
1946.....	21,193	21,580	16,425	14,260
1947.....	2 12,132			

<sup>1</sup> February 1943 (figure not available for March). A peak of 33,693 was reached between February and June 1943.

<sup>2</sup> Sharp reductions occurred throughout 1947.

Source: Office of Civilian Personnel, Central Pacific Ocean Areas, U. S. Department of War.

<sup>3</sup> Army and Navy personnel amounted to slightly less than 200,000 in 1945 but dropped to less than 45,000 in 1946.

*Defense expenditures*

Because of the lack of dependable data, it is impossible to present a complete statistical picture of the volume of defense expenditures. Such figures as are available, however, may be useful indications of the volume of Government funds which flowed into Hawaii during the war years.

From December 7, 1941, through June 30, 1943, the district engineers spent, in purchases from local firms, approximately \$172,000,000. It is significant that during this period the annual contracting business in Hawaii increased from 25 to 132 million dollars, or 428 percent.

Local purchases by the Army exchange system from December 1941 to April 1943 were estimated at \$9,100,000 and from April 1943 to January 1944 were \$5,713,000—a total of \$14,813,000. From April 1943 to December 1943, the Army exchange system also expended \$1,221,400 for personnel services.

The table covering Army expenditures (excluding personnel) for 1944, 1945, and 1946 indicates that such expenditures had reached a peak by or before the first half of 1944. They declined steadily thereafter. This decline presumably reflects the fact that the focus of military activity had moved westward.

TABLE 8.—*Army expenditures in Territory of Hawaii, 1944-46 (excluding pay rolls)*

Type of expenditure	1944		1945		1946	
	January-June	July-December	January-June	July-December	January-June	July-December
Travel allowances.....	\$274,000	\$514,000	\$310,000	\$495,900	\$378,400	\$364,800
Transportation of equipment and supplies.....	582,800	1,085,300	1,322,000	777,000	941,500	987,400
Communication services.....	203,400	170,000	158,500	117,900	73,900	86,700
Rents and utilities services.....	3,535,900	2,634,200	3,363,000	2,486,100	1,787,300	1,698,800
Printing and binding.....	111,671	78,400	88,400	60,700	4,200	6,700
Other contractual services.....	4,001,600	3,100,000	2,100,000	1,471,500	1,962,500	1,918,800
Supplies and materials.....	14,441,900	8,712,400	7,468,900	3,868,800	1,331,900	1,294,800
Equipment.....	1,576,100	526,700	984,200	559,800	164,500	158,900
Lands and structures.....	1,685,400	1,786,700	1,266,300	1,037,200	410,500	398,000
Refunds, awards, etc.....	333,800	810,200	651,200	2,005,700	1,577,200	1,534,600
Interest.....	4,000	8,000	15,800	40,000	11,800	9,700
Total.....	26,750,571	19,425,900	18,228,300	12,920,600	8,643,700	8,450,200

Source: Fiscal office, Central Pacific Ocean Area, U. S. Department of War.

TABLE 9.—*Pay rolls of Army personnel, Territory of Hawaii, 1944-46, by months*

Month	Amount (in thousands of dollars)			Month	Amount (in thousands of dollars)		
	1944	1945	1946		1944	1945	1946
January.....	6,996	7,446	5,454	July.....	7,371	8,300	2,957
February.....	9,239	9,424	3,225	August.....	10,151	8,080	3,208
March.....	11,466	11,676	2,784	September.....	12,061	6,723	( <sup>1</sup> )
April.....	11,718	8,509	3,007	October.....	9,329	6,875	2,967
May.....	13,429	8,801	2,706	November.....	8,461	5,656	2,651
June.....	11,318	7,776	2,432	December.....	8,566	5,877	2,633

<sup>1</sup> Not available.

Source: Fiscal office, Central Pacific Ocean Area, U. S. Department of War.

TABLE 10.—*Monthly pay rolls of civilian Army employees, Territory of Hawaii, 1942-46, by months*

Month	Amount (in thousands of dollars)				
	1942	1943	1944	1945	1946
January.....	(1)	6,366	5,950	6,110	5,732
February.....	(1)	6,382	5,761	6,428	4,365
March.....	(1)	6,209	5,887	7,053	4,840
April.....	(1)	6,130	5,830	6,033	4,126
May.....	(1)	6,465	5,582	6,107	5,121
June.....	(1)	5,980	5,760	6,344	4,831
July.....	(1)	5,846	6,211	6,208	4,074
August.....	(1)	5,664	5,544	3,892	3,619
September.....	6,039	5,728	6,413	4,871	3,094
October.....	6,150	5,613	5,260	4,795	3,122
November.....	6,263	5,339	6,043	4,838	2,915
December.....	6,262	5,384	6,819	4,667	2,953

<sup>1</sup> Figures not available.

Source: Fiscal office, Central Pacific Ocean area, U. S. Department of War.

### *Naval expenditures*

The estimated expenditures of the naval disbursing office and of the navy yard in the Territory for 1945 were \$148,000,000. The gross naval personnel pay roll for 1945 totaled \$215,000,000, of which \$101,000,000 went to personnel in shore stations and \$114,000,000 to personnel on visiting ships. During that year, approximately \$36,000,000 was expended in Hawaii by such ships for the purchase of provisions, stores, and supplies. In 1946, the total payments to Navy service personnel amounted to \$32,000,000. Civilian employees of the Navy were paid a total of \$53,000,000 during the same year. Local expenditures of naval personnel and of civilians employed by the Navy were estimated at \$66,000,000 for the year, and approximately \$4,500,000 was expended locally by the Navy for provisions and supplies. The value of public works construction undertaken by the Navy in 1946 amounted to \$8,500,000.

### *Disposal of surplus defense equipment*

The tremendous accumulation of wartime supplies in Hawaii resulted in a surplus disposal program which loomed large in the relatively small economy of Hawaii and has impinged upon practically every aspect of the economy of the Territory. In 1946 alone, the Army and the Navy sold 169,000,000 "cost dollars worth" of surplus property in Hawaii to local and mainland buyers.

### *The wartime expansion of bank deposits and bank clearings*

Bank deposits and bank clearings constitute the best available index of the wartime changes in the volume of business in the Territory. Total bank deposits rose from \$109,000,000 in 1939 to \$546,000,000 in 1945. This was partially due to the rise in Government deposits from slightly less than \$13,000,000 in 1939 to well over \$132,000,000 in 1945, but it was primarily due to the general rise in both time and demand deposits. The decline in total deposits in 1946 was due to the sharp fall in Government deposits during that year, but the decrease during the first half of 1947 was due to the reduction in demand deposits.

Bank clearings rose from \$470,000,000 in 1940 to \$1,710,000,000 in 1945. There was a decline to \$1,447,000,000 in 1946, but figures for 1947 indicated no further decline.

The tables covering bank clearings and bank deposits thus reflect the rapid rise in defense activity and reveal the inflationary effect of wartime Federal expenditures in the Territory.

TABLE 11.—*Bank clearings, Territory of Hawaii, 1940-47*

Year	Amount	Year	Amount
1940 .....	\$470,828,167	1944 .....	1,558,841,290
1941 .....	680,445,850	1945 .....	1,710,171,837
1942 .....	839,083,600	1946 .....	1,447,207,298
1943 .....	1,192,620,768	1947 .....	1,679,938,888

Source: Office of the Bank Examiner, Territory of Hawaii.

TABLE 12.—*Bank deposits, Territory of Hawaii, 1938-47*

Year ended Dec. 31,	Demand	Time	Government	All other	Total
1938 .....	\$32,964,695.81	\$59,147,864.00	\$15,938,886.66	\$2,541,164.88	\$110,592,611.35
1939 .....	33,368,165.48	59,606,357.14	12,890,776.29	3,556,437.89	109,421,736.80
1940 .....	42,777,939.01	67,076,458.68	16,151,532.83	3,548,287.16	129,554,217.68
1941 .....	59,497,011.91	62,375,809.54	33,446,090.60	5,413,482.84	160,732,394.89
1942 .....	100,669,767.42	97,474,901.43	76,006,308.06	6,391,711.39	280,542,688.30
1943 .....	108,404,919.15	133,398,281.34	90,856,302.17	4,075,759.53	336,736,262.19
1944 .....	139,931,586.41	185,122,121.10	127,531,235.35	8,510,150.60	461,095,093.46
1945 .....	163,460,376.55	222,036,502.78	132,439,015.05	5,503,146.49	543,205,585.02
1946 .....	156,162,701.14	247,238,533.57	68,872,398.00	5,255,273.59	477,538,912.30
1947 <sup>1</sup> .....	132,177,157.33	246,171,648.63	66,155,481.17	7,697,320.24	452,201,607.37

<sup>1</sup> As of June 30, 1947.

Source: Office of the Bank Examiner, Territory of Hawaii.

### Land transfers

There was a significant increase in the value of Territorial land transfers, from \$11,864,700 in 1939 to \$59,201,800 in 1946. Land values on all islands except Oahu remained relatively stable. The sharpest rise in the number and value of land transfers occurred in the Honolulu area. These figures reflect two developments: (1) A remarkable inflation of real property values (on the island of Oahu) due to the acute shortage of housing, and (2) a significant increase in the wealth and the real-property holdings of residents of Chinese and Japanese origin due to the wartime expansion of business. The inflation of real property values reached an all-time high in the spring of 1947.

TABLE 13.—*Land transfers, Territory of Hawaii, 1935-47*

Year	Number of deeds filed and recorded	Approximate value of land transfers	Year	Number of deeds filed and recorded	Approximate value of land transfers
1935 .....	3,194	\$6,217,540	1942 .....	4,156	\$14,885,500
1936 .....	4,328	10,916,055	1943 .....	5,542	26,763,200
1937 .....	5,358	12,125,405	1944 .....	6,103	35,141,000
1938 .....	5,169	11,000,270	1945 .....	6,392	40,729,000
1939 .....	5,310	11,864,700	1946 .....	7,832	59,201,800
1940 .....	5,763	14,017,700	1947 .....	7,648	50,751,000
1941 .....	6,603	17,256,500			

Source: Honolulu Chamber of Commerce, annual reports.

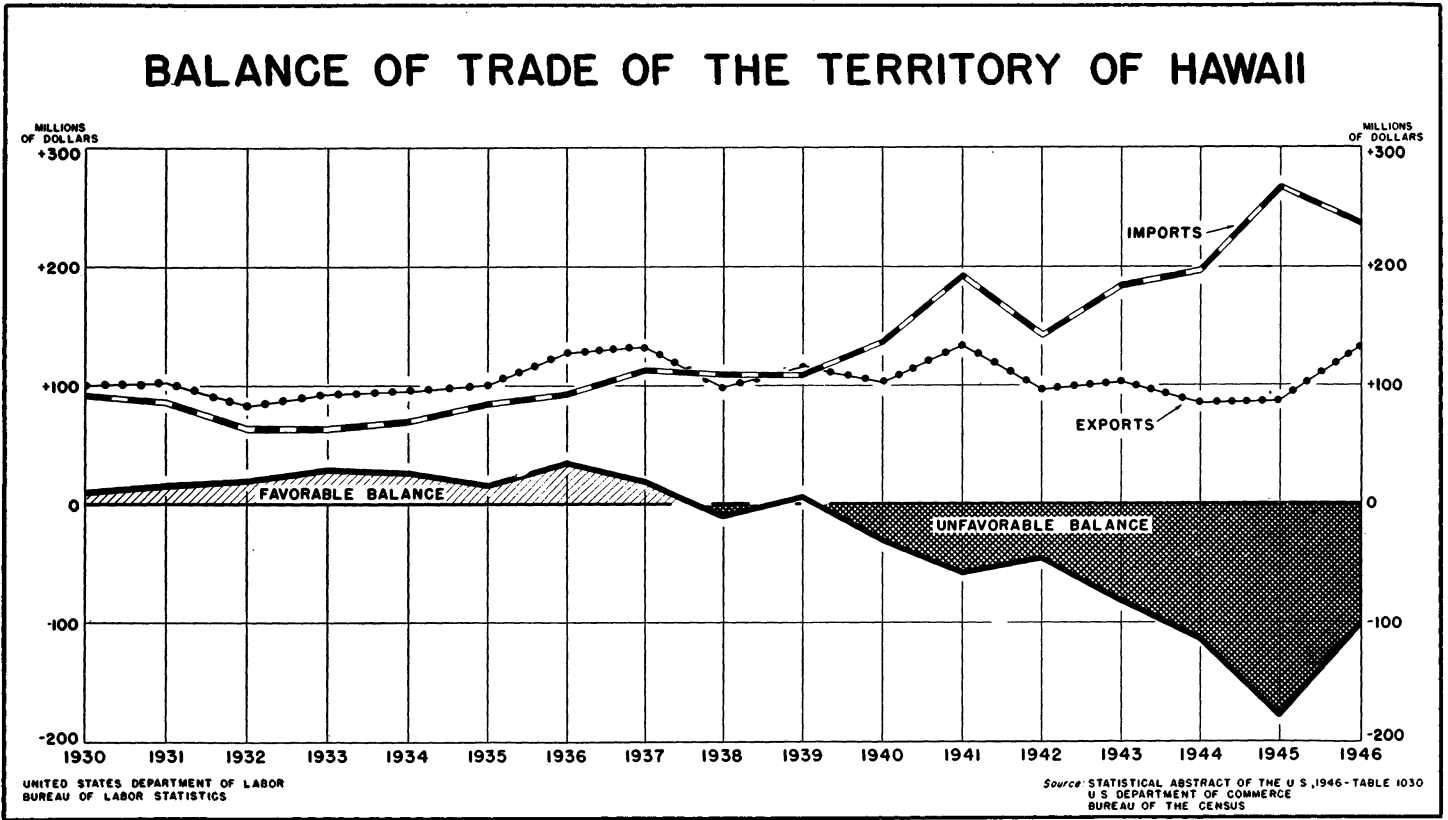
*Effect of the war on the balance of trade and the balance of payments*

One fundamental effect of the war on the economy of the Territory is strikingly illustrated by the balance of trade between Hawaii and the mainland. Throughout the twenties and thirties there was an almost continuous period of favorable trade balances. The balance of payments was even more favorable than the balance of trade because there was an invisible export of Hawaiian services to tourists which, in prewar years, brought the Territory an income of almost \$1,000,000 a month. Thus the export of sugar, pineapples, fish, and services to tourists more than paid for the food, clothing, housing materials, transport vehicles, medical supplies, motion pictures, etc., which Hawaii purchased from the mainland. This excess produced a gradual rise in the assets held in Hawaii.

Under normal conditions the sharp rise of imports beginning in 1940, which led to the rapidly increasing unfavorable balance of the war years, would be alarming because it would mean that the Territory was rapidly going bankrupt. The payment for a large part of these imports, however, did not come out of the receipts from Hawaiian exports but represents expenditures of the Federal Government for defense purposes. The unfavorable balance appeared before December 7, 1941, because heavy defense investments had begun nearly 2 years earlier. The payments for these increased importations into Hawaii consisted of (1) direct expenditures of the Government through the Army and Navy to buy construction materials used in Hawaii, (2) indirect expenditures of the Government in the form of purchases by imported mainland workers of food, liquor, curios, and other items imported from the mainland for their use; (3) similar purchases by Army, Navy, and Marine personnel; and (4) direct expenditures of the USO, the Red Cross, and other such agencies serving the armed forces. Hence, although the commodity imports from the mainland throughout the war years greatly exceeded Hawaiian exports, the economy as a whole was expanding and prospering rather than declining. The direct and indirect claims upon the mainland so greatly exceeded the unfavorable balance of trade during those years that they resulted in a sharp rise in bank deposits and liquid reserves and laid the ground work for a postwar inflation.

The large unfavorable balance which persisted after Government expenditures had returned to near-normal levels is quite another matter. Defense expenditures, the employment of civilians for Army and Navy construction, and the number of service personnel in Hawaii have declined sharply. The excess of imports over exports in 1946-47 represents a decline in the total volume of claims held in Hawaii against the mainland. This condition in the first postwar years was to be expected because the lack of shipping, wartime priorities, and the acute shortage of many consumer goods had made it impossible to obtain the normal supply of articles needed by Hawaiian residents. There was thus a pent-up demand (in terms of need and of the buying power resulting from the profits accumulated during the war) which found expression in the form of purchases from the mainland as soon as wartime restrictions were lifted.

It is clear, however, that unless defense expenditures continue at high levels the unfavorable balance cannot continue indefinitely. In the long run, the level of imports (which largely determines the standard of living in the highly specialized island economy) is depend-





ent upon the level of exports, that is, upon the export volume of sugar, canned pineapples, canned fish, and of services to tourists and the armed forces. Other things being equal,<sup>4</sup> any action which lowers the export volume of any of these four items will result in a lowering of living standards in Hawaii.

*Period of military control—December 7, 1941, to March 10, 1943*

The direct economic effects of the war can be measured in such terms as pay rolls, volume of construction, bank clearings, bank deposits, and the like. The indirect social and psychological effects cannot be so measured. Yet in the last analysis they have had a more profound effect on the character of the Hawaiian economy, as indicated by the developments of 1946-47. Of the many social changes, none is more important than the change in the outlook and the position of labor. Of the many reasons for this change, none is more powerful than the effect of the labor policies of the military government on the attitudes of Hawaiian labor.

Military defense, not an improvement in working conditions, was the first concern of military government. On December 12, to provide an over-all program for Army and Navy employees and for employees engaged in construction by civilian firms for the Army and Navy, military authorities agreed to establish an over-all scale of wages for defense projects. On December 20, by order of the military governor (General Order No. 38) wages were frozen at the December 7 level for all employees on Oahu so long as they remained in their job classifications. In addition, Government employees and employees of contractors, subcontractors, and utility workers were frozen in their jobs. Any worker in these categories who left his job between December 7 and 20 was ordered to return to his December 7 employer, and future unemployed workers were to accept employment at the order of the military government. To secure additional workers quickly and in quantity, the Hawaiian Department of the United States Army Engineers Corps on January 1, 1942, executed a formal contract signed by all sugar and pineapple plantations providing for the loan of plantation employees for defense projects when requested by the engineers.

On January 26, General Order No. 38 (supplemented by General Order No. 56) required the registration of all unemployed able-bodied men with the United States Employment Service. A director and a deputy administrator of labor control were appointed for Oahu and an eight-man advisory council was named. These administrative groups established wage levels for defense workers and acted as a board of appeals for workers who were "dismissed with prejudice." Theoretically, the director was responsible for all labor problems on Oahu and confusion later arose as to his position relative to labor disputes.

The military governor's office on Oahu established executive branches on Hawaii, Kauai, and Maui. Labor controls on these islands varied to some degree and were largely dependent upon the decisions of the commanding generals assigned to each island.

On Oahu, plantation laborers were not frozen to their jobs, but there was an informal agreement with the sugar and pineapple plan-

<sup>4</sup> This qualification refers to two possibilities: (1) There may be an increase in local production for local consumption; primarily a possible growth in diversified farming on areas not now occupied by the plantations. These possibilities are decidedly limited, however, and are discussed in the section on nonplantation agriculture. (See ch. 12.) (2) Federal expenditures in Hawaii (in particular defense expenditures) may be decidedly higher during the coming year than they were in prewar years.

tation representatives not to employ persons known to be plantation employees. On the other islands the most effective device for freezing local labor on the plantations and in other positions was not the "labor freeze" but the order which required travel permits from military authorities for movement from island to island. Plantation workers generally found it impossible to obtain such permits. On the island of Kauai plantation labor also was required to secure a formal release from the plantation manager in order to go to another island.<sup>5</sup> On March 31, 1942, General Order No. 38 was revoked and General Order No. 91 was issued establishing the following policy:

1. Revised Wage Schedule No. 9 of the Navy was set as the standard for Army and Navy agencies, their contractors and sub-contractors (civil-service employees were excluded).

2. An 8-hour day and a 6-day week were established, with overtime rates for work in excess of 8 hours a day and 44 hours a week. The maximum workweek was 56 hours, except in emergency, and individual and union contract provisions in conflict with the order were suspended.

3. No hiring of employees in "essential industries" without release was permitted, and penalties for employees seeking to escape the "freeze" were ordered. (No penalties were provided for employer violation.) If the employer released the employee "with prejudice," the latter might appeal to the director of labor control, but if the employer was unwilling to issue any form of release, the employee had no choice but to work at the assigned job or be prosecuted in provost court for absenteeism and vagrancy.

On June 26, 1942, General Order No. 120 suspended all legal holidays and abolished premium-pay provisions for such days. (Premium-pay provisions for Sunday work were already void, except insofar as the 44-hour week applied.)

Women employed in regulated jobs were subject to the same rigid control and possibility of penalty as men, but unless they were in this category on December 7 or voluntarily entered it, women were not treated so dictatorially. General Order No. 152, dated November 5, 1942, required registration of all women over 16, and it is probable that the fear of potential evacuation persuaded many unemployed women to accept employment. The follow-up of the registration, however, was not particularly effective.

*Conflict and compromise between military and civilian authorities—  
March 10, 1943, to October 24, 1944*

Immediately following the sneak attack on Pearl Harbor on December 7, 1941, there was an acceptance, even an urgent desire to institute military authority. It was the common view that local forces were inadequate to repulse a full-scale Japanese landing (which was momentarily expected) and, therefore, any measures designed to strengthen defense, no matter how extreme, should be accepted without question. At a time when servicemen (including many from Hawaii) were giving their lives for defense, it appeared entirely reasonable that labor should accept military regulations as part of the defense program.

Throughout 1942, however, there was a gradual growth of antagonism to military government. Decisive naval victories in the summer

<sup>5</sup> District Regulation No. 74 (May 4, 1942) which was also the "travel order" for that island.

of 1942 restored confidence in the security of Hawaii. The landings at Guadalcanal in August transferred the offensive from Japan to the United States. Orders which appeared reasonable in the presence of extreme danger seemed unreasonable when that danger ceased to exist. In August 1942, William Green, president of the American Federation of Labor, requested the military governor's office to establish a board in Hawaii similar to the National War Labor Board in order to protect the rights of labor. A new Governor of Hawaii was appointed in August and promptly undertook to reestablish civil rights. Extended conferences in Washington between Governor Stainback (who was accompanied by Attorney General Anthony) and officials of the Departments of War, Justice, and the Interior resulted in a compromise. On February 8, 1943, a military proclamation provided that 30 days from that date part of the functions performed under the military government should be returned to civilian authorities. In an attempt to reduce the confusion that resulted, on March 10, 1943, the military governor revoked all existing general orders that dealt with civilian control and promulgated a new series (General Orders Nos. 1 to 14) redefining the military regulations which would remain in force. General Order No. 10 in this series contained the labor control regulations and indicated that authority would be retained by military government over all employees of the United States under the Army or the Navy, all construction employees on projects under the Army or Navy, stevedores and dock workers, and public-utility employees. The regulations governing these workers were very much the same as the previous regulations.

On the same date, March 10, the civilian government issued its own regulations. Rule No. 42 provided temporary control (first for 60 days and later extended to 90 days) over 32 firms previously regarded as "sources of supply." Rule No. 43 established a Hawaiian manpower director and a Hawaiian manpower board to supervise controls over all labor not under military control and to freeze "critical-shortage industries" (dairies, laundries, and hospitals). On April 18, a travel order (rule No. 57) was adopted which was less stringent than the military order but restricted solicitation of labor as between islands except with the approval of the manpower director. In October 1943, the War Manpower Commission's war stabilization program became effective. It directly affected all workers classified as essential to the community and between seventy and eighty thousand additional workers not under military rule. The most important features were the separation of agricultural workers and industrial plantation workers and the provision that agricultural workers could leave a particular employer but not the industry. On November 1, 1943, the military government issued General Order No. 40, which amended General Order No. 10, by revising the wage-and-hour schedules and by stating that the general provisions of General Order No. 10 no longer applied outside of Oahu. This ended military labor controls on the other islands.

From the standpoint of labor, the compromise of 1943 constituted a fruitless victory. The basic restrictive controls imposed on "defense workers" remained in force. Mainland labor that had been recruited for work in this field was experienced in modern "personnel management" and grievance procedures and was well aware of the collective-bargaining advantages enjoyed by mainland labor. Labor in Hawaii,

led by imported mainland workers, became more and more vocal. The central labor council of American Federation of Labor locals wrote to General Richardson in January 1943, requesting a return of all labor controls to civilian rule. In July the council passed a resolution requesting General Richardson to initiate a study and revision of grievance procedure, since no action had been taken to institute civilian control. In March 1944, unions representing both the A. F. of L. and the CIO issued strongly worded protests against military interference with union leaders and accused authorities of discrimination against organized labor.<sup>6</sup> The effect of these protests was strengthened by a critical judicial review of military infringement on civilian liberties. This grew out of the conflict over habeas corpus proceedings in the Glockner-Siefert case and the imposition of a fine for contempt upon General Richardson by a civilian court. The case was a significant development in the effort to restore civilian government. Justice Murphy, concurring with the decision of the Supreme Court on this case on December 7, 1945, stated:

The unconstitutionality of the usurpation of civil power by the military is so great in this instance as to warrant this Court's complete and outright repudiation of the action.

Civilian labor directors continuously pointed out to military authorities the ineffectiveness of a dual system of regulation.

In June 1944, the National War Labor Board was established in Hawaii, a move which swung the balance of power in labor matters to the civilian authorities. In August, the office of the military governor announced that all labor disputes would be handled by civilian officials. On October 24, 1944, Executive Order 9489 of the President of the United States established Hawaii as a "military area" and terminated the martial-law status of the Territory.

*Administrative confusion, the revival of unionism, and the termination of the war, October 24, 1944, to August 14, 1945*

The remaining 10 months of the war constitute a confused period of military-civilian control. The peak of military construction was past and reductions in employment were already being made. The War Manpower Commission, although more willing than the military officials to listen to the grievances of labor, nevertheless continued the system of labor stabilization and priorities. The War Labor Board continued to maintain the established wage structure. There was an endless argument between military and civilian authorities as to which were essential jobs, who was unnecessarily holding labor, and how labor could best be utilized. While officials debated, labor leaders were working and union membership was increasing rapidly.

The controls so suddenly imposed in December 1941 were removed with equal suddenness when the war ended. Any laborer could leave his job at will, move from place to place, accept a new job, or take a vacation. Labor in general was free to assert rights under the National Labor Relations Act and to strike without violating patriotic pledges. The strength of labor organization was heightened by the fact that, in spite of the reduction in Government construction and maintenance work, the demand for labor was still strong.

<sup>6</sup> The Memorandum on Military Control of Hawaiian Labor, issued by officials of the American Federation of Labor unions on March 22, 1944, was especially emphatic.

This brief summary of the official administrative developments respecting the regulation of labor during the war years covers only the outstanding changes. A detailed history of the numerous conflicts, conferences, orders, regulations, and legal disputes centering on the status of labor during the war would require a volume much larger than this entire report, but certain conclusions are clearly indicated by the documents and reports of the period:

1. Civilian authority was freely and voluntarily given over to the armed forces in the earliest days of the war. At that time, labor groups (including those of Japanese descent) gave the military government full cooperation, accepting the most restrictive regulations without complaint.

2. The reason for the unquestioning acceptance of the leadership of the military government was the patriotism of the residents of the Territory in the face of a momentary expectation of enemy action against one or more of the islands.

3. As this danger receded, particularly after the United States gained the initiative during the summer and fall of 1942, there was a rising opposition to the continuation of military government in respect to civilian affairs.

4. The resentment was intensified by drastic action on the part of military government in the detailed regulation of civilian activities; in particular by the usurpation of judicial powers and the arbitrary exercise of those powers in the face of repeated representations from labor, management, and civilian officials. The result was a three-sided conflict of views:

(a) The military authorities, faced with the urgent emergencies which continuously arose as the war moved northward in the western Pacific, were determined that war requirements should have first priority. They saw no reason why both management and labor in Hawaii should not conform to local military rule (even to military regulations which were onerous) when American servicemen were living under more difficult conditions and were giving their lives for victory. Military authorities in Hawaii were constantly reminded by reports from the front that the outcome of specific engagements was heavily dependent upon the efficient and continuous movement of men and of supplies in Hawaii to the proper units in the Far East. In their minds all activity in Hawaii stemmed from this primary consideration. The whole framework of military regulations covering civilian activities and labor controls must be interpreted from this point of view.

(b) Management organizations in Hawaii, although clearly recognizing that the winning of the war was the primary consideration, nevertheless felt that the maintenance of the basic island industries (sugar and pineapple production, the local public utilities, and the service industries) were important contributions toward that end. It was generally felt that the war emergency and the secrecy surrounding it were being used as a cloak to cover local orders and local activities which were unnecessarily arbitrary or which gave Army and Navy personnel privileges and authority which the exigencies of the war did not require. Moreover, having cooperated fully with military authorities in providing heavy plantation equipment in the form of trucks, tractors, and cranes whenever required; having relinquished plantation labor when needed for defense activities; having accepted

military priorities in respect to shipping; having adjusted plantation and other operations to a change in the whole framework of economic relationships required by military demands; and having abandoned their normal markets for sugar and pineapples in order to supply the armed forces with these foods; the management of island industries felt that civilians had a right to participation in local administrative policy.

(c) Labor believed that its position and its interest were being virtually ignored. It was the view of labor leaders that military government tended to be sympathetic to management and antagonistic to labor organization.<sup>7</sup> On two points labor was especially critical:

Labor leaders contended that while Hawaiian enterprises both large and small were making unusual profits, while the Government was paying well for properties, materials, and services, and while prices were rising, labor was "frozen" and was carrying the weight of the civilian part of the local war effort without receiving its fair share of the payment for such effort.<sup>8</sup>

It was further felt that after the summer of 1942 there was no justification for regulations controlling labor to be more restrictive in Hawaii than those on the mainland. Bitterness was especially expressed concerning the excessive power of management and the stringent regulations against absenteeism which made it possible for military courts to fine or imprison workers for being absent from their jobs under procedures which were considered arbitrary and were later judged by the Supreme Court to be illegal.

This resentment gradually grew to explosive proportions between 1942 and 1944 and was a primary reason for the sudden unionization of all important island industries as soon as restrictions were lifted. These developments are discussed in the chapter on unionization in this report (ch. 23).

### *Summary*

The economic effects of the war on Hawaii may be summarized as follows:

1. A complete change in (a) the character of administrative controls, (b) their location, (c) the goals toward which the economic activities on the islands were directed, and (d) the character of the daily life of Hawaiian communities.
2. An evacuation of the nonemployed and the tourists, and a sharp increase in total employment due to (a) the fact that a much larger percentage of those living in the islands entered employment for patriotic reasons or because of military government regulations, and (b) the importation of large numbers of mainland laborers.
3. A general stimulation of activity throughout the Hawaiian economy due to (a) a sharp rise in Army and Navy construction accompanied by a corresponding increase in the importation of construction

<sup>7</sup> If an employee was "dismissed with prejudice," it was not legally possible to find employment elsewhere. This gave employers a strong position in the enforcement of General Order No. 38 freezing workers in their jobs as of December 7, 1941.

<sup>8</sup> The "labor freeze" contained restrictive provisions in respect to wage rates to which labor could point in support of its contention, but it is not strictly true that labor failed to benefit, because it was possible to avoid wage controls by reclassifying workers and promoting them to higher levels. The labor shortage was so acute that this was a common practice, especially on the part of Navy and Army authorities, in order to attract labor into defense construction.

materials, military equipment and supplies, (b) the employment of large numbers of civilian workers drawn from other island enterprises and from the mainland, and (c) the local purchases by the Army, the Navy, and the personal expenditures of servicemen on all islands.

4. An expansion of the public utilities and the service industries of the islands to an all-time high.

5. The rise of Federal expenditures in Hawaii which began with the prewar defense program of 1939-41 and, after December 7, 1941, overshadowed all other forms of income in the Territory.

6. A resultant inflation as indicated by the rapid increases in bank clearings, deposits, credit, and of those prices not under OPA control.

7. The development of an acute housing shortage which was most intense in the Honolulu area.

Had it not been for wartime restrictions in the form of price control, shipping controls, and the allocation of priorities, long before the end of the war Hawaii would have experienced an even greater boom with an expansion of private construction and a marked rise in prices. The rigid restrictions imposed by the military government, however, held these developments in check. There was thus a gradual increase in pressure toward higher prices, toward a demand for new construction and toward the establishment of new enterprises. As soon as wartime restrictions were lifted these forces, long held in check, became operative.

Underlying all of these economic developments was a fundamental change in the outlook of Hawaiian labor which later resulted in a remarkably rapid expansion in labor-union organization and a complete change in the character of labor-management relations in the Territory.





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**PART II**  
**THE SUGAR INDUSTRY**

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## CHAPTER 3. ORGANIZATION OF THE INDUSTRY

### THE RELATIVE POSITION OF THE HAWAIIAN SUGAR INDUSTRY

The annual world production of sugar reached a high of 35,942,000 tons in 1940. Because of the war, there has been a marked decline since that date. Present production is about 30 million tons, two-thirds of it being cane sugar and the remaining third beet sugar. The International Sugar Agreement of May 7, 1937, divided the world into separate market areas established under quota systems in closed or partially closed markets. Only one-tenth of the world production of sugar is outside of this quota system. Hence the so-called "world price" for sugar (established in the London market, since the British Empire is the most important buyer of sugar in the open market) cannot be considered as a dependable barometer of a true world price for sugar.

The American market absorbs approximately one-fifth of the world production, or 6 million short tons. The present duty-free sources of supply are: (1) Mainland beet, (2) Puerto Rico, (3) Hawaiian cane, and (4) mainland cane.<sup>1</sup>

The Sugar Act of 1937 established quotas for these areas within the American market. All sugar produced in any of the above areas up to the quota limitation can be sold in the American market free of duty. The quota for Hawaii was then 14.1 percent of the American market, or 918,038 short tons. There was a temporary suspension of quotas from September 11, 1939, to December 26, 1939. Because of the acute shortage of sugar during the war years the quota system was again suspended in 1942. In August 1947 it was revised and reestablished giving Hawaii an annual quota of 1,052,000 tons for a period of 5 years.<sup>2</sup>

In addition to the sugar produced for mainland consumption, Hawaii normally produces about 30,000 tons for local consumption. The remainder is shipped as raw sugar to be refined and marketed on the mainland.

Sugarcane was indigenous to Hawaii at the time of its discovery but even as late as 1837 only 2 tons were produced during the year. The next 40 years witnessed a gradual increase in production under the employment of native Hawaiian labor. During this period the sugar industry expanded from a minor place to a significant position in the economy, that is, from an annual output of 2 tons in 1837 to 13,036 tons in 1876. The period from 1876 to 1933 was one of very rapid expansion (accompanied by a shift to alien Oriental labor) during which the industry reached a dominant position in the Territory. The Reciprocal Trade Agreement of the United States in 1876 and the annexation of Hawaii as a territory of the United States in

<sup>1</sup> Cuba supplies nearly half (48.5 percent) of the American requirement and is given preferential treatment in respect to duty over other foreign areas.

<sup>2</sup> The measure also (1) provided for incentive payments to beet and cane sugar growers, (2) required the Secretary of Agriculture to determine a "fair and reasonable" price to be paid by processors to growers, (3) required the Secretary of Agriculture to determine every year the minimum wages to be paid sugar agricultural workers.

1898 each gave a sharp impetus to production. During this time successive waves of immigrants from China, Portugal, Japan, Korea, and the Philippines were induced by plantation management and by the Government to come to Hawaii to meet the labor demands of the expanding industry.

By 1932 the sugar industry had reached a high of 1,063,605 short tons. From then until the war began, production averaged a little over 966,000 tons annually. During the war years there was a definite decline in output due to the shortage of labor and the difficulties in obtaining maintenance equipment and fertilizer. Due to a strike in the autumn of 1946 there was a sharp drop to 680,073 short tons, representing a loss of over 180,000 short tons. Since the growing period of cane is from 18 to 22 months, the strike also affected 1947 production, which was approximately 872,164 short tons.

TABLE 14.—Cane sugar Production of Hawaii, 1908-47 <sup>1</sup>

Year beginning October—	Total acreage in cane	Average yield per acre <sup>2</sup>	Sugar pro- duced <sup>3</sup>	Year beginning October—	Total acreage in cane	Average yield per acre <sup>2</sup>	Sugar pro- duced <sup>3</sup>
	<i>Acres</i>	<i>Short tons</i>	<i>Short tons</i>		<i>Acres</i>	<i>Short tons</i>	<i>Short tons</i>
1908.....	201,641	32.8	545,738	1930.....	251,533	61.9	1,018,047
1909.....	209,469	31.5	529,940	1931.....	251,876	63.4	1,057,303
1910.....	214,312	35.7	582,196	1932.....	254,563	59.1	1,063,605
1911.....	216,345	35.3	607,863	1933 (Oct. 1 to Dec. 31).....			127,317
1912.....	215,741	34.8	556,654	Year beginning Jan. 1:			
1913.....	217,470	39.5	624,165	1934.....	252,237	59.5	959,337
1914.....	239,800	45.8	650,970	1935.....	246,491	67.8	986,849
1915.....	246,332	42.1	596,703	1936.....	245,801	70.1	1,042,316
1916.....	247,476	44.4	654,388	1937.....	240,833	69.5	944,382
1917.....	276,813	40.5	582,192	1938.....	238,302	65.0	941,293
1918.....	239,844	39.6	607,174	1939.....	235,227	62.2	994,173
1919.....	247,838	39.2	560,379	1940.....	223,511	62.7	976,667
1920.....	236,510	41.2	546,273	1941.....	238,111	65.45	947,190
1921.....	228,519	41.0	618,457	1942.....	225,199	69.01	870,099
1922.....	235,134	39.9	554,199	1943.....	220,928	71.95	885,640
1923.....	231,862	50.7	715,918	1944.....	216,072	71.51	874,947
1924.....	240,597	52.2	781,000	1945.....	211,331	71.44	821,216
1925.....	237,774	53.1	804,644	1946.....	208,376	71.13	680,073
1926.....	234,809	56.1	831,648	1947.....			872,164
1927.....	240,769	58.6	920,887				
1928.....	239,858	57.7	925,140				
1929.....	242,761	58.7	939,287				

<sup>1</sup> Until 1871 annual production did not exceed 10,000 tons. Production was 12,788 tons in 1877 and rose rapidly thereafter, amounting to over 100,000 tons within a decade. There was an especially sharp rise between 1895 and 1908, during which time annual production increased from 147,627 tons to 545,738 tons.

<sup>2</sup> The growth of 18 to 22 months. Only a portion of the total acreage in cane is harvested each year.

<sup>3</sup> Converted to 96° raw basis, in accordance with Sugar Regulations, Series 1, No. 1, U. S. Department of Agriculture, Agricultural Adjustment Administration, issued Feb. 18, 1935.

Source: Crop Reporting Board, U. S. Department of Agriculture.

### General organization of the Hawaiian sugar industry

In the sugar-producing areas of Louisiana, Puerto Rico, the Philippines, and the sugar beet States, a farming system had been established before the development of the sugar industry. As the farmers in those areas already owned the land, sugar production grew along the lines of the established farming system.

The Hawaiian sugar industry, on the contrary, began on land which was undeveloped. The taro patches cultivated by the native Hawaiian were unsuitable for sugar. The land the sugar plantations now occupy formerly consisted of forest areas, useless arid areas, or semi-arid pasture land. The plantations own a little over half of this land in fee simple; the remainder is leased. The land tenure system in

Hawaii is different from that in any other part of the United States. It is a complex outgrowth of the feudal system which existed before annexation, under native Hawaiian royalty. Such lands as were suitable for sugar had been held in large tracts and were thus leased or purchased in large tracts. From the beginning, sugar production in Hawaii was on a larger scale than typical mainland farming.

Throughout the whole history of the industry, there has been a steady decrease in the number of plantations, with a corresponding increase in the scale of plantation operations and in production per acre and per man-hour. Until 1932 there was a steady growth in the total volume of output. The value of Hawaiian sugar plantations was estimated at \$9,000,000 in 1880. By 1892, \$33,000,000 of capital had been added, of which \$25,000,000 were invested by Americans, \$6,000,000 by British investors, and the remaining \$2,000,000 by Germans.<sup>3</sup> By 1901 a total of \$85,000,000 had been invested. Most of the increase in the value of plantations since that time has come from reinvested surpluses built up within the industry. The Hawaiian Sugar Planters' Association estimates the present investment in all sugar plantations to be approximately \$175,000,000.

For the following reasons the trend continues to be toward larger plantation units:

(1) In Hawaii the growing of cane and manufacturing of raw sugar are combined in a single plantation, based on a planned program to provide a continuous flow of cane into the mill. Under these conditions small-scale operations are inefficient. Where small-scale farming persists, in other sugar-producing areas, there is a sharp line of demarcation between the growing of sugarcane and its processing, the farmers selling to the processors.

(2) The arid and semiarid lands, which constitute over half of the area now under cane cultivation, required the construction of large irrigation systems too costly to be undertaken except by large-scale enterprises.

(3) Unlike the crop in other areas, cane in Hawaii takes 18 to 22 months to mature. It needs a much greater quantity of fertilizer per acre. Because of the topography, it requires expensive systems of transportation between field and mill. To accomplish these ends requires a large capital outlay and involves risks more readily carried by large-scale concerns.

(4) The plantations are organized in an association which has planned for the Hawaiian sugar industries as a whole and which has developed the whole framework of economic relations necessary to their existence on an industry-wide basis, including shipping, the purchase of fertilizer, equipment and other supplies, the development of mainland refineries and markets, the supervision of management labor policies, the maintenance of research laboratories and the formulation of common programs of action for combating plant diseases, insect pests, and soil problems.

It should be strongly emphasized that mass production agriculture is the foundation on which high per worker productivity has been developed in Hawaii and which, to a large degree, determines the standard of living in the Territory as a whole.

<sup>3</sup> German holdings were seized by the Enemy Property Custodian during the First World War, and were later sold to Hawaiian interests.

## THE "FACTORS" AND THE HAWAIIAN SUGAR PLANTERS' ASSOCIATION

With the development of the whaling industry which centered in Hawaii, there appeared a group of trading concerns which provided the whalers with supplies and often acted as agents for them in much the same way as the Hudson Bay "factors" acted as agents for fur trappers in Canada. With the collapse of the whaling industry and the expansion of the sugar industry, the Hawaiian "factors" turned to sugar as a field of operations.

At first the sugar plantations arranged for the transporting and selling of sugar through captains of sailing ships. Later the commercial functions of the rapidly expanding industry were so important that the factors were encouraged to concentrate upon them. Plantation agriculture was designed for the most effective production of sugar and for organizing the land, labor, and capital of Hawaii on a mass-production basis. It was not organized to meet the problems of merchandising. The isolation of Hawaii imposes serious difficulties in maintaining contacts between plantation management and distant American markets. The factors took over this latter function and eventually absorbed the financing of the plantations as well. Competition and amalgamation gradually reduced the factors to the five large agencies which now handle everything the plantations buy and sell.

The independent owner-manager plantation survived until 1880. About that time, under the guidance of the factors, there was a marked movement toward incorporation to provide for the mobilization of capital and for large-scale production. Within two decades nearly all the capital in the Hawaiian sugar industry was in plantation corporations. This facilitated the trend toward consolidation on the part of both factors and plantations. In 1883 there were 90 plantations which produced 57,053 tons of sugar. By 1938 there were only 38 plantations but they produced 941,293 tons of sugar. All but three of these plantations were managed by the five "factors." As of November 1947 there were 30 plantations<sup>4</sup> with a capacity to produce annually over a million tons of sugar.

In 1882 the sugar industry organized the "Planters' Labor and Supply Co." This was reorganized in 1895 as "The Hawaiian Sugar Planters' Association." It has continued under that name as the central organ for the coordination of policy and planning for the Hawaiian sugar industry as a whole down to the present time. The H. S. P. A. describes its functions as follows:

The Hawaiian Sugar Planters' Association is an organization of plantations and individuals united for the purposes of cooperative improvement of the island sugar industry as a whole. . . . The association is administered by a board of trustees. The president, who serves for 1 year, is elected from among the trustees.

. . . The association's major enterprises are divided into the following departments: Experiment station, bureau of labor and statistics, labor saving devices committee, boiler inspection committee, public relations committee, labor relations committee, legislative committee.

The association acts as a clearinghouse for all activities of the industry, making possible the freest and quickest interchange of information among the plantation

<sup>4</sup> Not including 2 in process of dissolution in 1947. There have been a number of recent changes: (1) Most of the area occupied by the Honolulu plantation was purchased during the war by the Army and Navy for defense construction and housing (the remainder of the Honolulu plantation land was absorbed by the Oahu plantation); (2) Waiānāe and Waimānalo plantations began liquidation in 1947; (3) the Maui Agricultural Co. was amalgamated with the Hawaiian Commercial and Sugar Co.; and (4) the Waiākea Mill plantation resigned from the H. S. P. A. in 1947 in the expectation of liquidation in 1948. One other plantation was considering the possibility of liquidation at the time of the survey.

executives. It maintains an office in Washington, D. C., which handles all relations of the Hawaiian sugar industry with Government departments and the Congress.<sup>5</sup>

The long-run result of the agency system was thus to deprive the plantations of their independence and to transfer control to the factors, a control which has been further unified by the coordination of policies and planning in the central offices of the Hawaiian Sugar Planters' Association.

The agencies (or factors) and the plantations they represent are as follows:

Alexander & Baldwin, Ltd.	C. Brewer & Co., Ltd.—Continued
Hawaiian Commercial & Sugar Co.	Hutchinson Sugar Plantation Co.
Kahuku Plantation Co.	Kilauea Sugar Plantation Co.
Maui Agricultural Co.	Olokele Sugar Co.
McBryde Sugar Co., Ltd.	Onomea Sugar Co.
American Factors, Ltd.	Paauhau Sugar Plantation Co.
Grove Farm Co., Ltd.	Pepeekeo Sugar Co.
Kekaha Sugar Co., Ltd.	Wailuku Sugar Co.
Koloa Sugar Co., Ltd.	Waimanalo Sugar Co. <sup>6</sup>
Lihue Plantation Co., The	Castle & Cooke, Ltd.
Oahu Sugar Co., Ltd.	Ewa Plantation Co.
Olaa Sugar Co., Ltd.	Kohala Sugar Co.
Pioneer Mill Co., Ltd.	Waiialua Agricultural Co., Ltd.
Waimea Sugar Mill Co., The	Theo H. Davies & Co., Ltd.
C. Brewer & Co., Ltd.	Hamakua Mill Co.
Hakalau Plantation Co.	Kaiwika Sugar Co., Ltd.
Hawaiian Agricultural Co.	Laupahoehoe Sugar Co.
Hilo Sugar Co.	Waiakea Mill Co. <sup>7</sup>

There are two additional plantations, the Honokaa Sugar Co. (F. A. Schaefer & Co., Ltd., agents), which is also a member of the H. S. P. A., and Gay & Robinson (Bishop Trust Co., Ltd., agents), which is not a member of the H. S. P. A.

The functions of the factors, as summarized in the Hawaiian Sugar Planters' Association Manual, are as follows:

*Financial.*—All fiscal matters of the plantations are handled by specialists in the offices of the factors. Moneys are received and disbursed, tax statements prepared, water and land rents paid or received, surpluses invested, or deficits advanced.

*Experimental.*—Engineers and other technicians are constantly seeking ways to improve the output of the various client plantations.

*Shipping.*—All the multitudinous detail of shipping huge quantities of sugar by water to the mainland is in the hands of the factors.

*Merchandising.*—Through their mainland buyers, the factors provide a steady flow of needed merchandise to plantation stores and to the plantations themselves. Because of the size of their operation, everything a plantation and its personnel need is provided at a minimum cost.

#### THE ORGANIZATION OF A TYPICAL PLANTATION

Sugar is produced on 30 plantations<sup>8</sup> located on the four main islands—Oahu, Maui, Hawaii, and Kauai. About 208,000 acres are in cane, of which somewhat more than half is harvested every year. In addition to the cane land, the plantations hold large areas not under cultivation, mainly timberlands and uplands which often provide a source of water supply for irrigation purposes.

<sup>5</sup> Hawaiian Sugar Planters' Association Manual, p. 16.

<sup>6</sup> In process of dissolution.

<sup>7</sup> The Waiakea Mill Co. submitted its resignation from the H. S. P. A. in 1947 in expectation of liquidation in 1948.

<sup>8</sup> Not including two in process of dissolution.

Plantations vary widely in appearance and in the living conditions of plantation labor. On some plantations much of the housing is new and the local community services such as sanitation, fire protection, hospitalization, motion-picture theaters, clubs, recreational facilities, and electric lighting are modern. On others (especially those in which work communities are broken up into "plantation camps") housing is poor and sanitation and other conveniences are lacking.

Operational problems on a sugar plantation are comparable to those of a Detroit factory rather than to those of a large Iowa farm. The primary objective of the management is to maintain "belt-line production" of sugar by so scheduling the various fields throughout the plantation for harvesting and transport to the mill that full-scale raw-sugar production will be continuous, 24 hours a day. To do this it is necessary to maintain a fleet of large trucks, mechanical harvesting equipment, a system of narrow-gage railways (or other means of transporting cane to the mill), a laboratory for scientific observation to determine the water and fertilizer needs with an organized force of workers to implement these findings, and large pumping stations and gravity systems for controlling irrigation.

Although there are wide differences in the technical problems faced by the plantations because of extreme variations in topography and rainfall, life on all plantations follows a substantially similar pattern. Under the coordinating influence of the Hawaiian Sugar Planters' Association, over a period of several generations of experimentation, good workable methods have spread rapidly, thus developing a common pattern of plantation organization.

The manager of a plantation is appointed by the controlling "factor" or agency. He has wide authority over the plantation and the mill and exercises a considerable influence over all community activities. Plantations range from 4 to 10 million dollars in value and managers must be men of training and experience. Some of them (particularly those in Hamakua) are of Scotch descent, others are New Englanders, still others have come from Louisiana cane plantations, and many, of course, are island-born.

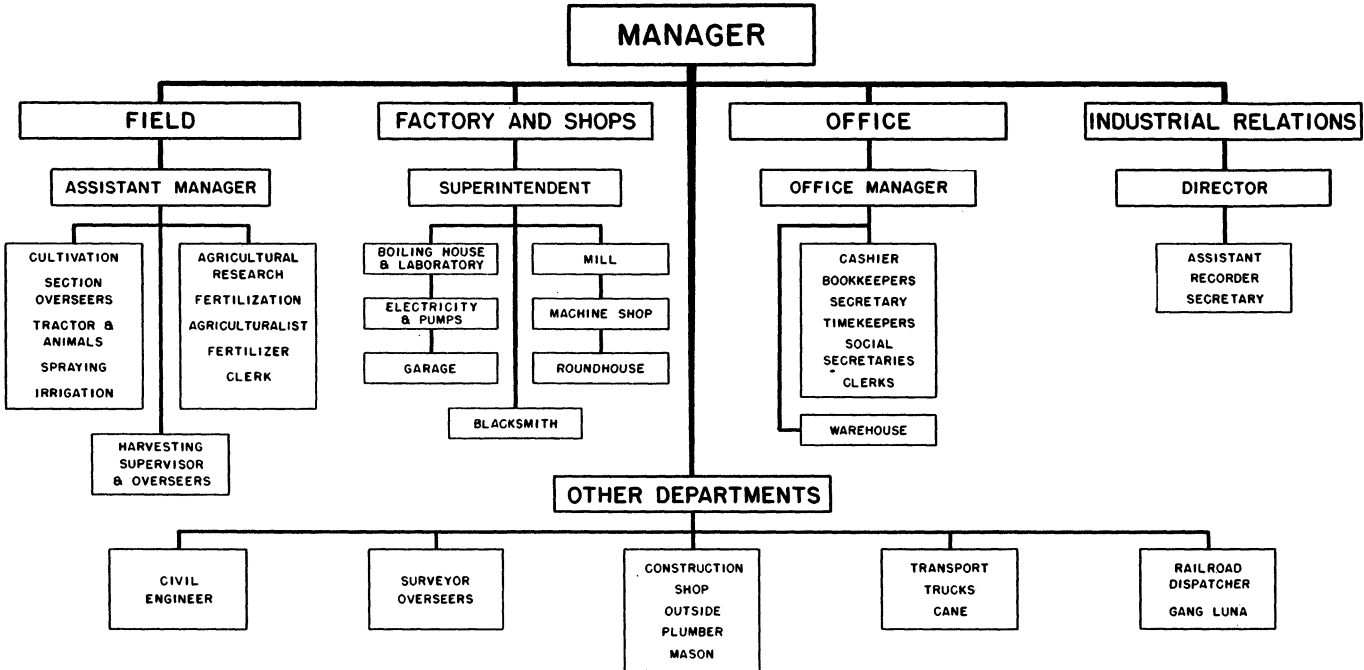
The typical plantation consists of five divisions: (1) Field operations including planting, cultivation, harvesting, irrigation, and agricultural research, (2) the sugar mills and the shops including boiling house and laboratory, the pumping stations, the machine shop, and garage, (3) the central office including the maintenance of records covering every phase of plantation operation, (4) the industrial relations division, and (5) other departments including the plantation railroad (and fleet of trucks), plantation store, the hospital and other departments.

Timing is important since there is a time for each operation when the expenditure of man-days of labor, the use of machines, the application of fertilizer, and irrigation water will be most productive. It is also true that cane cannot be stored more than 2 or 3 days without spoiling. Hence, plantation and production schedules must be such that enough, but not too much, cane will continuously appear at the mill to keep it in full operation.

The topography of Hawaii is such that a plantation must necessarily be separated into fields of widely different sizes, altitude ranges, and soil conditions. Since cane requires 18 to 22 months to mature, all of this planning must be projected a year and a half ahead. Thus the



# PLANTATION ORGANIZATION



UNITED STATES DEPARTMENT OF LABOR  
BUREAU OF LABOR STATISTICS

plantation manager, the heads of different departments, and the scientific research men who determine fertilizer, irrigation, and other requirements face a complicated and detailed problem in the planning of plantation operations, the construction of irrigation systems, the purchase of fertilizer, the maintenance of equipment, and, most difficult of all, the organization and direction of plantation labor.

Because of this and because in the earlier days plantations were dependent upon untrained oriental workers, the lines of authority stemming from the plantation manager have become clearly defined.

Physically a sugar plantation consists of (1) the plantation town, which includes the homes of workers and management officials, stores, clubs, a motion-picture theater, a recreation field and gymnasium, a hospital, and such services as electric lighting, a water system, police and fire protection; (2) a transportation system, including trucks, tractors, and in most cases a narrow-gage plantation railroad; (3) the plantation land area;<sup>9</sup> (4) a repair shop with expert mechanics for the maintenance of trucks, tractors, railroad equipment, and mill machinery; (5) a sugar mill; and (6) central offices of the management where continuous and remarkably detailed records covering every aspect of the plantation are kept, long-range plans are developed, and daily orders covering irrigation, planting, harvesting, and milling are issued.

Work begins and ends early in the day, as compared with mainland standards. Laborers appear at 6 or 6:30 in the morning to be taken by train or truck to the fields to which they are assigned. For each group there is a "luna" or straw boss who directs the work in accordance with instructions he receives at headquarters. On most plantations there is a period of 15 minutes or more in the early morning for a light snack and a half hour in the neighborhood of 11:30 or 12 for a noon lunch, eaten in the field. Since field labor is predominantly oriental, rice is the most important item in the diet.

Field labor works on a 48-hour week and an 8-hour day. Some workers are under "long-term cultivation contracts" and require only occasional supervision, since it is a common interest of both management and labor to maximize output. To a limited extent, long-term cultivators are thus more independent in respect to time and hours of work and may increase earnings by working more to increase output.

For the majority of plantation laborers the working day ends as early as 3 or 3:30 in the afternoon, at which time they are brought back to the plantation center.

Hawaiian life is distinctly an outdoor life, the temperature throughout the year being such that there is no month in which outdoor games cannot be played in comfort. Social life among the younger workers thus tends to center in such games as football, tennis, and basketball. There are also intra- and inter-plantation games which attract much local attention. On many plantations there are workers' clubs, which have tended in the past to organize along racial lines. Formerly, club rooms were provided in part by the plantation and in part by club dues. With the disappearance of the perquisite system and the growth of unionization, clubs are gradually becoming part of the union organization, supported by workers' funds. In view of the working

<sup>9</sup> Not all of this land is devoted to sugar production. Plantations dependent upon ground water own and maintain the wooded slopes nearby to protect their sources of water supply. They often maintain a ranch and dairy, truck garden or small farm, and there is, of course, the land occupied by the plantation town itself.

hours, night life is simple and brief; the plantation town retires at a relatively early hour.

Until the end of the war the whole plantation area, including all homes, land, motion-picture theaters, plantation stores, and even the installations for public services such as electric lighting and fire protection was plantation-controlled. The plantation manager was the chief official and central authority on all aspects of plantation life. In addition to his technical knowledge regarding sugar production, he had final responsibility in the direction and operation of sewerage and water systems, of the fire-protection systems, police force, the railroads, and performed many of the functions that a mayor would perform. He even sat as an informal judge on cases involving minor disturbances and petty larcenies.

Although he still occupies a dominant position in the community, many of his functions have been modified with the growth of unions, the development of collective bargaining, and the disappearance of the perquisite system.

## CHAPTER 4. SUGAR PRODUCTION

### METHODS OF PRODUCTION

The typical sugar plantation operations include (1) preparation of the soil, (2) planting, (3) weed control, (4) fertilizing, (5) irrigating,<sup>1</sup> (6) harvesting, (7) transporting, (8) manufacturing raw sugar, (9) shipping, and (10) general maintenance.

Throughout the history of the sugar industry there has been a steady trend toward mechanization. The recent rapid rise in wages has become a powerful impetus toward further mechanization. New operational developments were retarded during the war and the first two postwar years because it was impossible to obtain new equipment. Research and new technical developments have been carried forward intensively, however, and it appears certain that mechanization will proceed rapidly during the next few years.<sup>2</sup> Since 1939 a number of important changes have been introduced, or are now in the process of being adopted. The following description of the various operations indicates (1) the character of the labor performed on the plantations, (2) the rapid reduction in the demands made upon the physical strength of the laborer, and (3) the decline in the number of laborers required due to mechanization.

#### *Preparation of the land*

The primary labor requirement in preparing the land is for tractor operators and their helpers. Diesel-powered crawler tractors of 90 and more horsepower are used with both disk and moleboard plows. Many plantations have recently adopted tillage plows (known as the "pineapple plow") which are close-coupled with the tractor to permit better control of depth, and are easier to operate and maneuver. The primary plowing usually extends to a depth of 20 to 24 inches.

Disk plows, fitted with 32-inch disks, are used for secondary plowing and large 28-inch cutaway disk harrows are used for the final preparation of the field before planting. In some areas a heavy disk harrow is replacing the disk plow. Harrows are also frequently used before the moleboard plows to level off furrows and chop up debris or cane "trash" left on the field at the time of the harvest.

Hawaiian soil lacks silica, so that tillage implements do not "scour" (i. e., the soil does not slip smoothly over the surface of the plow but sticks to it). Hence, much more power is required for tillage in Hawaii than is needed for tilling mainland soil. The heavy tillage plows were developed in Hawaii in 1929. The high-powered Diesel crawler tractors followed about 1931. ("Stone boats"—flat-steel plates for pulling large rocks to the edge of the field—have long been used, but the powerful tractors have made them far more efficient.)

<sup>1</sup> On the Hamakua coast of Hawaii, rainfall is plentiful and irrigation is unnecessary.

<sup>2</sup> In October 1947 the HSPA Plantation News stated: "Estimates of the amount of money being spent in 1947 and 1948 for improvements and new equipment on sugar plantations run as high as \$20,000,000 and actual outlays may be even higher."

### *Planting*

To insure that any given variety will remain true to type, cuttings from the upper part of the cane stalk, about a foot or more in length and containing three "eyes," are used as seed (except in experimental work in crossbreeding). Planting thus becomes a problem of making certain that these cuttings will lie in the furrow, will be properly spaced, and will be covered to the correct depth.

Planting machines have long been used and have passed through a series of modifications. The "direct-connected planter," which first appeared in 1931, was mounted on a large Diesel-powered crawler tractor. It made the furrow, dropped the seed, applied fertilizer, and covered the seed, all in one operation. This planter required that two laborers space the seeds by hand, by dropping them through tubes. This was not only fatiguing, but the constant shifting of the cane cuttings on the moving tractor, together with the necessity for watching the furrows to make certain of proper spacing, caused operators to become dizzy, so that it was necessary to relieve them every 2 hours. Hence, an improved large planting machine has been introduced to reduce fatigue (although it does not reduce the number of laborers required). It is manned by a driver, one or two men to feed the seed into the dropper (which feeds it to a belt), one man to spread and straighten the seed on the belt and, in some cases, an additional man to control the fertilizer.

The old, smaller type machine used until 1946 planted 7 to 8 acres per day. The new machine, developed in 1947, will plant up to 10 acres per day. This planter drops fertilizer into furrows and rolls some of the soil over the fertilizer before the seed is laid in place.

On many of the irrigated plantations, an additional operation required at the time of planting is the pulling out and replacing of irrigation flumes. The better the job of the irrigation engineers, the more difficult is the job of planting, since field areas become smaller with the perfection of irrigating techniques.

Sugarcane, like grass, can be repeatedly cut without destroying its power of growth. It is thus common to obtain two or more crops from a single planting. Since the typical crop requires 18 to 22 months, the operations described above may take place only once a decade and usually do not take place more than once in 5 years in any given field.

### *Weed control*

Because of the porous nature of the volcanic soil of Hawaii, cultivation is not needed to loosen up the soil, but until recently it was considered to be the primary means of weed control. It was demonstrated, however, that light cultivation tended to give weed seeds a better opportunity to germinate; hence cultivation is now generally used only when weeds become too large to control with herbicides (the primary means of weed control).

Arsenic and a Diesel oil emulsion are the principal herbicides used. Oil emulsion is safe to handle but in the use of arsenic there is danger of poisoning. If used over a considerable period, arsenic also has a depressing effect on the crop.

A power spray boom is used in weed control with a 50-foot spread (25 feet on each side). Tractors must be used for loose soil and hilly fields, but trucks are satisfactory for level terrain. One man

can operate the spray. His position on the tractor is above and forward of the spray. He must wear a mask for eyes and nose, gloves and rubber boots in handling the arsenic herbicide.

It should be noted that experimentation is now being carried on to spread weed-control chemicals by plane.

### *Fertilizing*

The plant food needs of Hawaiian sugarcane are enormous and consist primarily of nitrogen, phosphoric acid, and potash. The Hawaiian sugar industry has been a pioneer in the use of chemical fertilizers. The heavy yields of sugar in the islands are due primarily to careful scientific testing. Until recently these tests were confined to the soil to determine what plant foods were lacking. It is now common, however, to make small cuttings directly from the cane leaves. A small sample is thus obtained from each field every week and on the basis of an analysis of these samples it is possible to determine moisture requirements and food needs.

Fertilizers cost the plantations an average of \$3,025,000 annually. The demands upon the soil fertility are explained by the fact that as much as 90 tons of cane may be taken from an acre in a single harvest, which is over 30 times the average weight of corn taken from an acre of Iowa farm land. In spite of the heavy demands of the sugarcane upon the soil, the fertilizer programs of the various plantations have caused soil fertility to increase rather than diminish.

Fertilizers are applied in three ways—by mechanical distributors, by hand, and by dissolving the plant food in the irrigation water. Hand applicators are gradually going out of use and are being replaced by small tractors. These tractors have a simple hopper in the back and a two-man crew—a driver and man to feed the fertilizer down spouts which drop it at the proper points near the cane plants. It is possible to fertilize on the surface, or, with a long pipe preceded by a blade protector, to place fertilizer under the surface near the cane roots. Subsurface fertilizing is considered best, not only because it feeds the cane roots, but because the fertilizer is then less available to the weeds.

As previously noted, a large quantity of fertilizer is applied by mechanical distributors at the time the field is prepared for first planting. On the irrigated plantations the bulk of the fertilizer reaches the soil by being poured into the irrigation water. This work is generally handled by "long-term cultivators" under special contract for such work (discussed later).

### *Irrigation*

Sugarcane requires great quantities of water. It is said in Hawaii that "sugar is made of sun and water" and that "it takes a ton of water to produce a pound of sugar." In reality the amount of water required varies considerably and may exceed a ton of water per pound of sugar where the cane is exposed to continuous winds. In some sections (the Hamakua Coast in particular) the water problem is one of drainage rather than of irrigation. The largest and most productive sugar plantations, however, are irrigated. Two-thirds of the total cane tonnage is produced under irrigation and over 10 percent of the total capital invested in the Hawaiian sugar industry is in irrigation systems alone. Irrigation water is generally provided by the plantations for their own use, though in a few cases independent

corporate units have been organized to take over water development and distribution.

Water is obtained from two sources, deep wells and gravity systems. Most irrigated plantations obtain water from both sources. Engineering feats including dams, the tunneling of mountains, inverted siphons, and artesian wells have been developed in these projects. In Kauai for example, the Olokele ditch furnishes 60,000,000 gallons of water daily and includes a 6 mile tunnel through a cliff. One plantation on Oahu has 61 artesian wells and a pumping capacity of over 100,000,000 gallons daily. On the island of Maui a single plantation obtains 300,000,000 gallons every 24 hours from its wells and gravity systems. These are large-scale, expensive operations. By way of comparison, the city of San Francisco used only 65,000,000 gallons daily in 1940.

Effective distribution of irrigation water requires experience and judgment regarding weather, soil, and the condition of the cane. In the year-round summer weather of Hawaii sugarcane grows continuously and it is thus possible to maintain a continuous flow of sugar into the mills similar to a belt-line production in a factory. Each field is scheduled for harvesting as of a given date. Irrigation control makes possible the speeding up or retarding of the ripening of the cane. Thus, there must be a close correlation between the scheduling of mill operations, harvesting schedules, and irrigation operations.

The amount of irrigation water a man can handle in a day varies greatly with topography, soil conditions, and types of irrigation equipment. Where there is a steady strong breeze, an acre may require as much as 350,000 gallons in a single irrigation. Under these conditions one man can irrigate 3 to 4 acres a day, handling the distribution of over 1,000,000 gallons of water. There has been a continuous expansion of irrigation systems and constant experimentation with siphons, gates, and ditches to reduce labor and to conserve water.

Water has become an increasingly valuable commodity and it is necessary to conserve it. In areas in which the land is too porous, the soil leaks so badly that the irrigation bed reaches a depth of 6 to 7 feet (which is nearly 5 feet below the root bed of the cane plant). In order to avoid the water loss which this represents, experiments are going forward on "overhead irrigation." The principle is similar to that of a fire hose which sweeps in a circular motion from pipes set up to provide coverage of fields;  $2\frac{1}{4}$  to 3 acres can be irrigated from one head with an estimated saving of 30 to 50 percent of the water now being lost. This saving would, in turn, make it possible to bring a greater acreage into cultivation.

The labor for irrigation work must be dependable, watchful, and experienced. For this reason, the older and more reliable plantation workers are given "long-term cultivation contracts" and assigned responsibility for these operations.

### *Harvesting*

Harvesting operations include: (1) burning, (2) cutting, and (3) loading. Traditionally, harvesting operations have been the most demanding upon the energy and skill of the ordinary field laborer and, in the past, represented the largest single occupational opportunity on the plantation. The growth of mechanical harvesting has reduced the manpower required for these operations, however.

(1) *Burning* the canefield is the Hawaiian method of ridding the fields of leaves and undergrowth. Agriculturists from other parts of

the world have sometimes condemned this on the assumption that the materials should be plowed under for humus. The planters' answer is that after each harvest new roots grow and old roots die, thus furnishing all the humus needed. In many cases, the high cost of labor makes it necessary to burn the fields wherever possible in order to save the labor which would otherwise have to be devoted to stripping leaves and cleaning out the fields. "Trash" (leaves and undergrowth) constitutes an additional 40 to 50 percent by weight when not burned. A few sections of the big island are so wet that this method cannot be used, but most of the canefields of Hawaii are burned before harvesting.

(2) *Cutting* by hand was the traditional method for many years in Hawaii. It is still necessary in areas where the terrain is such that mechanical harvesters cannot be used. For harvesting by hand a broad, thin-bladed machete, with a hook at the end of the blade, is used. It weighs 2 to 3 pounds and is extremely sharp. Each cutter has his own cane knife and his own ideas as to weight, balance, and shape. The lower part of the cane stalk lies along the ground twisting upward in a snakelike fashion. It is heavy, with a very hard rind, and is not easily bent. It grows 18 or more feet long in good soil. The stalk must not only be cut at the ground but also cut into 9-foot lengths. For these reasons, mechanical harvesting has been difficult to develop. Hand cutting, however, is a laborious and costly process.

A number of expensive, but ineffective, experiments have been undertaken in the past to provide an efficient mechanical harvester. From the earliest days of the industry until 1937 hand cutting with a cane knife was the method of harvesting in Hawaii. In 1937 the "grab harvester" was developed and is now generally used throughout the Territory. A large crawler tractor is fitted with a wide cane grab. The grab is suspended over the cane like an open hand and is dropped over the standing cane and closed up. As the weakest spot in the cane stalk is the section which joins the roots, a grab full of cane can be broken off and loaded on a waiting truck or car with little difficulty. The soil must be dry and firm for this method to be used, and it is not feasible on wet, unirrigated plantations. The grab has the advantage of accomplishing cutting, piling, and loading in a single operation.

It also has serious disadvantages: (a) It often injures the root system of the cane plant. (b) In some cases roots, soil, and even small rocks are piled into the cars and delivered to the mill. (c) It requires an extensive cleaning and washing of the cane and the utmost vigilance to prevent stones from getting into and ruining the cane crushers in the mill. (d) The colloidal soil of Hawaii becomes mixed with the cane juice and additional equipment is required to strain it out. (e) The fields must be replanted wherever the grab harvester has pulled out or destroyed the root systems. To overcome these disadvantages, a new cane cutter, which shows considerable promise, is being developed. This cutter was first designed in October 1945 and had its initial field test in 1947. The second field test, after modifications, was made in May 1947. If it is as successful as the engineers now expect it to be, the cane cutter will soon be in general use. If adopted, it will make possible the development of a combine harvester to pick up the cane, shake out the dirt, and load the cane for transport to the mill. The cutter involves the use of a standard tractor and can be operated by one man.



(3) *Piling and loading*.—Grabs for piling and loading cane appeared in Hawaii in 1934 from the Louisiana canefields. These, together with a piling rake, have largely eliminated the hand labor in piling and loading operations.

(4) *Transportation*.—In a normal year, about 9,000,000 tons of cane must be transported from the fields to the plantation mills. Each plantation has adopted that method, or combination of methods best suited to its local conditions. The methods are: (a) Railroads, with both permanent and portable tracks, (b) flumes, (c) tractors pulling wagon trains, (d) cableways, and (e) motortrucks. The general trend is toward very large motortrucks, but plantation railroads still carry the bulk of the Hawaiian cane from the field to the mill.

(a) *Railroads*.—Permanent narrow-gage tracks are laid between the mill and the fields. At the time of the harvest these are augmented with portable tracks laid into the fields. Cane cars are short, never over 14 feet in length. On the portable tracks in the fields, cars are hauled by tractors since locomotives cannot negotiate steep curves and grades. Locomotives up to 30 tons in weight are used for hauling between the field and the mill. Diesel locomotives appeared in 1926 and electric locomotives in October 1936. The total investment in the plantation railroads exceeds \$5,000,000 but railroads are now being abandoned. The same technical ability needed for the operation of any small railroad is required.

(b) *Fluming*.—This method of transporting cane is feasible only where there is a large supply of water on the upper levels of the plantation and a steep slope between the fields and the mill. Such conditions obtain on the Hamakua coast where fluming has been extensively used.

Flumes are made of wood in a V-shaped trough through which swiftly flowing water floats the cane down to the mill. The portable flumes are laid through the field at harvest time and are connected with the permanent flumes which float the cane from the field to the mill. Because of increased labor costs, portable fluming has been abandoned in favor of trucks in some areas. Where gradients do not permit fluming direct to the mill site, special trucks which permit the stream of water to flow through a sieve-like truck body catch the cane at the lower end of the flume for transport to the mill.

(c) *Tractor trains*.—The Athey wagons for use in connection with crawler tractors appeared in 1925. Six to ten wagons comprise a train, with 4 tons of cane per wagon. A 60-horsepower crawler tractor was used. They are expensive and slow, obtaining a maximum speed of only 2 to 3 miles per hour, and are being abandoned.

(d) *Cableways*.—Volcanic formations and heavy rains have produced deep ravines and sharp rocky formations in Hawaii; hence when ordinary forms of transportation are not feasible, it is necessary to stretch cables on supporting towers to form lines of transportation. A hook hanging from a trolley wheel running on the cable is the carrying unit. Cane, made up into 200 pound bundles, travels down the cable by gravity. Since cableways are generally used on steep slopes, cane bundles obtain very high speeds. The system is costly because of the small units that can be carried and the additional labor of making up bundles. During the past 8 years there has been a general tendency to abandon the less accessible areas on the plantations because of high unit costs.

(e) *Motortrucks*.—Until 1936 trucks were considered to be impractical; because of insufficient traction in the field they often mired on rainy days. Multiple-axle drives, powering four double-tired rear wheels and two front wheels, have overcome this difficulty. Since trucks are more adaptable to varying conditions and require fewer man-hours per ton of cane transported to the mill, there is a general trend throughout the whole of Hawaii toward large cane trucks, which are custom-built with unusually large tires to provide traction and powered with Diesel engines.

### *Mill operations*

On most plantations the mill operates on a 24-hour schedule of three 8-hour shifts. There must be a constant flow of cane into the mill and the careful planning of planting, harvesting, and transportation is all designed to that end. The milling of cane and the manufacture of raw sugar is divided into nine operations: (1) unloading, (2) washing, (3) crushing and pressing, (4) clarification, (5) evaporation, (6) crystallization, (7) drying, (8) bagging, and (9) shipping.

(1) *Unloading*.—On those plantations that use railroads, a long line of small cars loaded with cane stands outside the mill. This line moves a car length at a time into the mill, where each car is picked up by a mechanical dump which empties the cane directly onto a belt conveyor and returns the car to the track.

The use of trucks has resulted in unloading by slings or automatic dumps. It is customary to dump the cane directly on the conveyor or, in some cases, in a yard around the end of the conveyor where it is picked up by cranes fitted with grabs which place the cane on the conveyor.

(2) *Washing*.—Under the old system of hand-harvesting, washing was a minor operation and, of course, is not needed where fluming is used to transport the cane. But the grab harvester has made it necessary to shake out and wash the cane in order to make certain that small stones, dirt, and other debris is eliminated before the cane passes into the crusher. This step is relatively new, and the process of washing the cane varies all the way from a simple washing by spray on the conveyor belt to a very elaborate cleaning by machines especially constructed to shake and thoroughly wash the cane. If grab harvesting continues as the primary harvesting technique, it will be economical to introduce the machine washers. If, on the other hand, the newly developed cane cutter accompanied by a harvester is successful, an elaborate washing process will not be necessary.

(3) *Crushing and pressing*.—The equipment for this consists of a crusher and four 3-roller presses in tandem through which the crushed cane is passed for juice extraction. The top roller of these presses is under automatic pressure of 75 to 100 tons per foot of length. In a single tandem mill the rate varies from 25 to 100 tons of cane per hour. A double tandem will crush and press up to 150 tons per hour. The average for all mills, however, is about 58 tons per hour.

(4) *Clarification*.—The juice is first heated and limed and then goes to a settling tank (tray type clarifier). The clear juice is drawn off and goes to the evaporators. The muddy settlings are then piped to filters to clarify the remainder of the juice. The Oliver Campbell filter, which first appeared in 1927, is still generally used. It consists of a drum, covered with very fine holes, which constantly revolves

through the settlings. A vacuum inside the drum draws juice through the holes but leaves the mud and extraneous material deposited on the outside of the drum, where it is mechanically removed by a scraper knife.

(5) *Evaporation*.—Excess liquid is removed from the juice by boiling it in quadruple evaporators. The exhaust steam from the main mill engines generally provides the heat. Boiling is under vacuum to increase the drying efficiency.

(6) *Crystallization*.—After boiling, the thick sirup flows into tanks where it is slowly stirred by mechanical paddles until it crystallizes. Since all operations in the milling process are mechanical up to this point, the only labor required is that necessary to check on the progress of the juice and cane sirup through the various processes. Such labor as is required, however, must be highly trained and experienced.

(7) *Drying*.—When tests show that the proper degree of crystallization has been obtained, the sugar is dried (called purging) by pouring it into metal cylinders, 30 to 40 inches in diameter, which are then revolved at a rate of 900 to 1,400 revolutions per minute. The centrifugal force throws out the noncrystalline liquid through fine holes in the cylinder wall, leaving the raw sugar. This is then dropped out of the cylinder to a conveyor which carries it to the bagger.

(8) *Bagging*.—Automatic machinery drops the raw sugar into jute bags, weighs it, sews the bag, and delivers it to the conveyor.

(9) *Shipping*.—Transportation to port is by rail or truck. Sugar shipping ports are equipped with warehouse sugar conveyors for loading ships. Two plantations are so located that it is less costly to load directly onto steamers from the shore by cableways. Most of the raw sugar is shipped to the mainland for refining. Two Hawaiian mills refine sugar for local consumption.

A few general observations on mill operations should be noted:

1. Operations are checked at every step by frequent chemical analyses of juices, sirups, and sugars by technical experts.

2. The equipment (such as steam-pressure regulators, liming regulators, temperature regulators, juice level regulators, and density indicators) is automatic and requires only occasional inspection and control.

3. In respect to both cane tonnage per acre and juice extraction per ton, Hawaii shows a high degree of efficiency and compares favorably with other sugar-producing areas.

*Maintenance and plantation services*.—A large number of laborers are engaged in foundry and repair work, carpentry, painting, servicing water pumps, road repair, maintenance of irrigation ditches, and similar operations. In addition, there are special services represented by hospitalization, sanitation, and various types of experimental work. Because of the need of constant statistical controls to make certain that a maximum volume of cane moves into production on schedule, it is necessary to maintain a continuous flow of detailed information on all operations. This flow requires the services of a clerical force in the central office of each plantation.

*Annual period for general repairs*.—Since the mill operates 24 hours a day, it becomes necessary once a year to close it for a thorough overhauling. This requires 1 to 2 months and generally occurs sometime between the 1st of October and the latter part of December. Har-

vesting necessarily ceases, since cane cannot be stored, and the entire character of the work throughout the plantation changes. The bulk of the labor is then assigned to general clean-up and repair jobs, including roads, track and irrigation ditch construction, repairs, painting, and carpentering on buildings and houses, and various odd jobs. At this time the maintenance division works intensively on mill machinery, tractors, trucks, rail engines, and other plantation equipment and its numbers are considerably increased by assistance from the field labor force. The use of the grab harvester has increased the annual damage to mill machinery and, in some cases, has made it necessary to close the mill in midseason for general repairs.

This over-all review of operations on the sugar plantations has been presented in some detail because it indicates the character of the work performed by the largest group of laborers in Hawaii and because it provides a basis for understanding wage problems and other labor-management problems.

TABLE 15.—*Number of workers assigned to each operation on a typical sugar plantation in 1947 (excluding supervisors)*

Field work:	
Cultivation:	
Irrigation.....	87
Field-equipment drivers.....	32
Helpers.....	17
Seed cutters, planting and replanting, weeding, spraying fertilizing.....	162
Total.....	298
Harvesting:	
Cane loader operators.....	12
Rake operators.....	11
Ground crew and broomers.....	106
Total.....	129
Transportation:	
Cane-truck drivers.....	39
Crane operators and pick-up.....	9
Sugar-truck drivers.....	15
General truck drivers.....	29
Total.....	92
Agricultural research.....	
	6
Total, field work.....	525
Mill and shop work:	
Fireroom.....	18
Cleaning plant.....	22
Crushing plant.....	26
Boiling house and laboratory.....	58
Machine shop and welders.....	18
Blacksmith shop.....	6
Garage and field repairs.....	38
Electricity and pumps.....	26
Total, mill and shop work.....	212

TABLE 15.—*Number of workers assigned to each operation on a typical sugar plantation in 1947 (excluding supervisors)*—Continued

Other work:	
Civil-engineering department.....	24
Construction department (plumbers, masons, carpenters, painters)...	49
Office and warehouse.....	34
Stores.....	34
Medical.....	2
Industrial relations.....	6
Total, other work.....	149
Summary:	
Field work.....	525
Mill and shop work (3 shifts).....	212
Other work.....	149
Total.....	886

## EFFECT OF THE WAR ON PLANTATION PRODUCTION AND POLICIES

All plantations showed a somewhat similar pattern of economic change during the war.<sup>3</sup> The principal movement of labor from the plantations to defense construction projects occurred between February and December 1941. The plantations did not suffer heavy losses of labor throughout 1942-44 in spite of the urgent war demand for construction labor because the military maintained complete control over all travel between islands so that workers could not move without authorization, which was difficult to obtain.<sup>4</sup> Although the plantations had an insufficient number of workers to increase sugar and pineapple production to meet increased war demands, they did have enough labor to maintain normal operations.

On the other hand, on each of the islands the Army officers in command did not hesitate to requisition plantation equipment (trucks, tractors, bulldozers, and cranes) and plantation labor for local defense projects. An effort was made to schedule these operations in such a way as to involve a minimum of interference with plantation production. Payments were made to the plantations on a contractual basis at the same wage rates normally paid to plantation laborers. The plantations in turn paid their own laborers. These rates were generally lower than those paid workers hired directly by the Army engineers for similar work.

Certain special problems arose, such as the lack of rice, which, because of the many orientals working on the plantations, caused administrative difficulties and a few serious riots.

There was necessarily a lack of replacement and maintenance equipment. All plantations adopted a very careful program of maintenance. Equipment, on the whole, lasted well until the end of the war. By that time, however, it had become very badly worn. Thus, the worst period from the point of view of maintenance on the plantations was not during the war but rather from 1945 to 1947, inclusive.

In summary: (1) The population of Oahu rose and that of all other

<sup>3</sup> The war affected the pineapple plantations in much the same way, and to the same degree; this section could just as logically have been incorporated in the chapter on the pineapple industry.

<sup>4</sup> See ch. II, section on Period of Military Control, for further detail.

islands declined, indicating the general movement of labor into Army and Navy civilian employment on the island of Oahu. (2) The bulk of the interisland labor migration occurred in 1940 and 1941. The interisland passenger restrictions prevented any significant exodus of labor from the plantations during the war. (3) All plantations suffered from shortages of shipping, food, equipment, and labor. Such shortages tended to be larger in Oahu because local demand relative to local supply was much greater there. On the other hand, Oahu was in a more favorable position to obtain relief, because it was the shipping center and could more readily obtain and exercise priorities. (4) The plantations contributed heavily to defense construction and maintenance in men and equipment and were paid for their assistance. (5) High-production levels were maintained during the war years only (a) by the most strenuous efforts of the labor and management forces that still remained on the plantations, (b) by the gradual depletion of equipment (since replacements were not available), (c) by appeal to the patriotism of regular plantation labor and to intermittent labor (particularly of students), and (d) by using emergency methods which maintained high wartime output at the cost of impairing future production. Plantation managers thus inherited serious production problems from the war quite apart from those which later arose from unionization and strikes.

## CHAPTER 5. UNIONIZATION

The first written agreement in the sugar industry, between a plantation on the island of Kauai and the United Cannery, Agricultural, Packing and Allied Workers of America (a CIO affiliate), was signed in August 1941. The union had previously won an election for representation. With the exception of one other plantation that was brought under contract by the American Federation of Labor in the summer of 1944, additional union agreements were not obtained by organized labor until August 1945. An intensive organizing drive conducted during the latter part of the war by the International Longshoremen's and Warehousemen's Union, affiliated with the CIO, brought most of the employees in the industry into the organization. This made it possible to obtain contracts during the latter part of 1945 with all except a very few of the sugar plantations.

Union recognition was not obtained, however, without recourse to elections conducted by the National Labor Relations Board. Petitions for union representation, covering nearly all of the plantations, were filed by the ILWU with the NLRB and the resulting elections, with the exception of a few involving small bargaining units, were won by the union. Although agricultural employees were excluded from NLRB jurisdiction, the industry reached a mutual agreement with the union to conduct a cross check for the purpose of determining representation for such employees.<sup>1</sup>

With the signing of this first contract with the ILWU on August 1, 1945, the industry granted a general increase in wages amounting to 7 cents per hour, establishing a base rate of 41 cents per hour for unskilled workers on the island of Hawaii and a minimum of 43½ cents on all other islands. Although the contract provided that the employer could make individual increases in wage rates, it was also agreed that a job-classification system was to be prepared (by the company).

The negotiations for a new contract in 1946 involved a number of issues that could not be readily settled and the union conducted a strike vote in July. According to a union announcement, 15,406 ballots were cast in favor of strike action and only 123 workers voted against a strike. On August 27, the industry, represented by the Hawaii Employers Council, proposed a 50-cent minimum hourly wage (47½ cents per hour on Hawaii) plus 15 cents an hour cash payment in lieu of perquisites. This offer was not acceptable to the union. In addition to the wage and perquisite issues, the negotiators could not reach agreement on union demands for a 40-hour workweek, union shop, holiday pay, vacations with pay, travel time, paid sick leave, and a uniform pension plan.

The workers on 33 sugar plantations went on strike on September 1, 1946. This proved to be the longest and most costly strike in Hawaiian history. It was attended by practically no violence, except on the island of Maui. It lasted 79 days, until mid-November (and on one plantation until January 1, 1947). Over 21,000 employees were involved, and the Hawaiian Sugar Planters' Association estimates that 1,381,000 man-days were lost. The final settlement was said

<sup>1</sup> In 1945 the Territorial legislature passed the Hawaii Employment Relations Act which provided machinery for determination of representation for employees not covered by the National Labor Relations Act (except for certain categories of employees including domestic service).

to provide \$10,500,000 more annually in wages and benefits to employees.

Following the strike, the ILWU negotiated a new contract with the industry in which it was agreed that all employees covered by the agreement were to be classified in accordance with provisions outlined in an industry-prepared job classification manual. This job-classification plan and wage schedule became effective on November 19, 1946:

TABLE 16.—*Sugar industry wage schedule of Nov. 19, 1946*

Grade	General wage schedule	Companies A and B	Company C	Company D
1.....	\$0.705	\$0.74	\$0.75	\$0.80
2.....	.74	.775	.785	.83
3.....	.785	.815	.82	.87
4.....	.83	.86	.865	.91
5.....	.89	.915	.92	.96
6.....	.96	.98	.985	1.02
7.....	1.045	1.06	1.065	1.09
8.....	1.14	1.15	1.155	1.175
9.....	1.25	1.255	1.26	1.27
10.....	1.38	1.38	1.38	1.38

Exceptions to the general wage schedule were made in the case of four large plantations, three of which were located on the island of Oahu and the fourth on the island of Maui.<sup>2</sup> A comparison of these special wage schedules with the general schedule applicable to the bulk of the workers in the industry reveals that the wage differentials are greatest in the unskilled jobs and progressively diminish along the labor grade scale with a common wage of \$1.38 applicable to jobs grouped in grade 10.

The union agreement also provided that all employees' rates were to be brought to the levels of their respective grades but in no case would an employee receive an increase of less than 25 cents per hour over his previous rate, subject, however, to the effect of another provision that dealt with the conversion of perquisites. Prior to 1946 practically all plantations provided perquisites to plantation workers and their families which constituted a very significant part of their "real income." These perquisites included housing, medical care, recreation fields, and gymnasiums. There were numerous minor services, which varied from plantation to plantation, consisting of electric lighting, fuel, transportation to beaches for outings, plots of land for vegetable gardening, permission to hunt on plantation-owned wooded lands, and the like. With the unionization of the plantations there has been a general conversion of all perquisites into higher wages with the understanding that workers are required to pay for what was previously received free under the perquisite system. Medical service was maintained to January 1, 1948, except that from November 19, 1946, employees made a contribution toward such medical care as follows: \$1.65 per month for a single man, \$2.50 per month for a married man, including his wife, and \$1.10 per month for each child up to six children. Under the union agreement a more permanent group medicine plan is being worked out which is to be patterned after that of the Hawaii Medical Association.

This conversion of the perquisite system was one of the most difficult of problems which faced management and the unions. There were

<sup>2</sup> Since the date of signing of the contract, the lands owned by one of the plantations have been purchased by another sugar company.



contradicting viewpoints within the unions, because some workers gained less than others by the conversion. The valuation of perquisites continues to be a point of contention between labor and management. Since perquisites in the pineapple industry and in many smaller industries went through a transition similar to that in sugar, this problem permeated the whole field of labor-management relations throughout Hawaii in 1946 and 1947 and is still a problem.

The union-management contract of November 1946 provided that simultaneously with the installation of the new wage rates (general wage schedule and increase per hour test), all perquisites were to be eliminated and employees would be charged for housing and other facilities in accordance with agreed-upon schedules. Each individual who was paying rent would have his monthly rental divided by 208 and if the resulting amount, subtracted from his per-hour increase, left him less than the following guaranteed increase, his rate would be increased by the amount of the difference:

Status:	<i>Minimum net guaranteed in- crease (cents per hour)</i>
Single.....	19. 0
Married, no dependents.....	20. 0
Married, 1 dependent.....	21. 0
Married, 2 dependents.....	22. 0
Married, 3 dependents.....	22. 0
Married, 4 dependents.....	23. 0
Married, 5 or more dependents.....	23. 5

The adoption of the job-classification plan and wage schedule, together with the general wage increases that were granted, brought about a greater standardization of occupational rates within the industry. Although personalized job rates in effect at the time of signing of the contract were not eliminated, the nature of the wage adjustments was such that it tended to reduce the spread in rates paid within any particular job classification. In line with the program of bringing about a formalized rate structure within the industry, it was agreed in this second contract that further wage increases would only be made within the provisions of the job-classification plan or through action on wages that might follow a reopening of the agreement.<sup>3</sup>

On August 1, 1947, a new wage agreement was successfully negotiated by the sugar industry and the unions. This provided for an increase in the minimum hourly wage in all classifications of 8 cents "across the board." There was also a provision that those receiving more than the minimum wage in their classifications would receive an increase of not less than 5 cents an hour. This change should be taken into account in interpreting the basic tables indicating hourly earnings as of February 1947. The August agreement provided that

<sup>3</sup> Sec. 1 of the agreement reads as follows: "Duration of agreement: Except as otherwise provided herein this agreement shall become effective November 19, 1946, and shall remain in effect until August 31, 1948. It shall be deemed renewed thereafter from year to year unless either party hereto gives written notice to the other party hereto of its desire to amend, modify or terminate the same, which notice shall be served not more than seventy-five (75) days nor less than forty-five (45) days prior to said expiration date, in which event negotiations shall begin within fifteen (15) days from date of notice. This agreement is further subject to reopening by either party solely on the question of wage adjustments upward or downward once between August 1, 1947, and September 30, 1947, inclusive, on thirty (30) days' written notice by either party, and further subject to reopening on the questions of wages, classifications, or hours once between February 1, 1948, and March 31, 1948, on thirty (30) days' written notice by either party. In the event these interim reopenings are exercised, negotiations shall commence within ten (10) days from date of notice. In the event of such reopening and failure to agree the parties shall be free to strike or lock-out, but solely on the questions of wages, or wage classification, or hours, depending upon the particular reopening. Otherwise, all provisions of section 14 shall remain in full force and effect.

"Notices served under this section shall be accompanied by the proposals of the notifying party."

wage negotiations could be reopened on February 1, 1948. No additional changes were made in the contract.

TABLE 17.<sup>1</sup>—*Sugar industry monthly rental rates of dwellings according to floor area, class, and condition of building*

Floor area	Class 1			Class 2			Class 3		
	A	B	C	A	B	C	A	B	C
500 square feet or less.....	\$10.00	\$12.50	\$15.00	\$12.50	\$15.00	\$18.00	\$15.00	\$18.00	\$21.50
600.....	11.00	14.00	17.00	14.00	17.00	20.50	17.00	20.50	24.50
700.....	12.00	15.50	19.00	15.50	19.00	23.00	19.00	23.00	27.50
800.....	13.00	17.00	21.00	17.00	21.00	25.50	21.00	25.50	30.50
900.....	14.00	18.50	23.00	18.50	23.00	28.00	23.00	28.00	33.50
1,000.....	15.00	20.00	25.00	20.00	25.00	30.50	25.00	30.50	36.50
1,100.....	16.00	21.50	27.00	21.50	27.00	33.00	27.00	33.00	39.50
1,200.....	16.75	22.50	28.50	22.50	28.50	35.00	28.50	35.00	41.75
1,300.....	17.50	23.00	30.00	23.50	30.00	37.00	30.00	37.00	44.00

<sup>1</sup> See p. 55 for further comment on this table.

A. Rental for houses with floor area falling between the above points will be adjusted to the nearest 25 cents per month.

B. This schedule will not apply to future construction.

C. Rental adjustments for improvements or repairs affecting the class, condition, or floor area of the house will be made effective on the 1st of the month following completion of the work.

D. Floor area is that area expressed in square feet under the roof line of each dwelling including service facilities directly attached to the house or, in an elevated house, the enclosed or concrete area on the ground floor.

E. Water, when metered, will be charged for at current county rates in effect in the locality. Otherwise, a flat rate of \$1 per month will be charged to families occupying dwellings up to 1,000 square feet in floor area and \$1.50 per month for those from 1,001 to 1,500 square feet.

F. Electricity will be purchased by each tenant for his own account from the local public utility where available; otherwise from the plantation at public utility rates.

G. Fuel will be purchased by each tenant from any source available to him.

Source: Exhibit E in the sugar industry—ILWU agreement effective Nov. 19, 1946.

TABLE 18.<sup>1</sup>—*Sugar industry monthly rental rates of bedrooms in single men's quarters according to house floor area per bedroom, class and condition of building, and per capita minimum rentals*

House floor area per bedroom	Class 1			Class 2			Class 3		
	A	B	C	A	B	C	A	B	C
100 square feet or less.....	\$5.00	\$6.75	\$8.50	\$6.75	\$8.50	\$10.50	\$8.50	\$10.50	\$12.75
125.....	5.25	7.25	9.25	7.25	9.25	11.60	9.25	11.50	14.00
175.....	5.50	7.75	10.00	7.75	10.00	12.50	10.00	12.50	15.25
225.....	5.75	8.25	10.75	8.25	10.75	13.50	10.75	13.50	16.50
275.....	6.00	8.75	11.50	8.75	11.50	14.50	11.50	14.50	17.75
325.....	6.25	9.25	12.25	9.25	12.25	15.50	12.25	15.50	19.00
Per capita minimum rentals									
100 square feet or less.....	\$3.00	\$4.00	\$5.00	\$4.00	\$5.00	\$6.25	\$5.00	\$6.25	\$7.25
125.....	3.25	4.25	5.50	4.25	5.50	7.00	5.50	7.00	8.00
175.....	3.25	4.50	6.00	4.50	6.00	7.75	6.00	7.75	8.75
225.....	3.50	4.75	6.50	4.75	6.50	8.50	6.50	8.50	9.50
275.....	3.50	5.00	7.00	5.00	7.00	9.25	7.00	9.25	10.25
325.....	3.75	5.25	7.50	5.25	7.50	10.00	7.50	10.00	11.00

<sup>1</sup> See p. 55 for further comment on this table.

A. Rental for bedrooms with house floor area per bedroom falling between the above points will be adjusted to the nearest 25 cents per month.

B. This schedule will not apply to future construction.

C. Rental adjustments for improvements or repairs affecting the class, condition, or square-foot area of the building will be made effective on the first of the month following completion of the work.

D. House floor area per bedroom is the total floor area of the house divided by the number of bedrooms in the house.

E. Water, when metered, will be charged for at current county rates in effect in the locality. Otherwise a flat rate of \$0.50 per month will be charged each single occupant of single men's quarters.

F. Electricity will be purchased by each tenant for his own account from the local public utility where available; otherwise from the plantation at public utility rates.

G. Fuel will be purchased by each tenant from any source available to him.

Source: Exhibit E in the sugar industry—ILWU agreement effective Nov. 19, 1946.

*Classification of dwellings on sugar plantation*

The following descriptions set forth the types of construction and of the facilities provided:

*Class 1.*—A dwelling constructed of rough merchantable lumber, stud framing, single wall, floors 1 by 12 inches or 1 by 6 inches; stock sized or T and G doors; sliding windows; drop cord electrical outlets; toilet, bathing, and laundry facilities detached; kitchen and sink and tap may be attached or detached.

*Class 2.*—A dwelling constructed of surfaced lumber; ceiling of canec, surfaced lumber, or other material; single wall; stock doors, sliding or hung windows; stain or paint outside and inside; drop cord electrical outlets; kitchen, with sink and tap, attached; toilet and bathing facilities and laundry, with laundry trays, detached, sewer or cesspool connections.

*Class 3.*—A dwelling constructed of surfaced lumber; canec or surfaced lumber ceiling; T and G floors; stock doors; sliding, double hung or casement windows; stain or paint outside and inside; clothes closets; some kitchen cabinet work; floor plugs and outlets for electrical equipment; shower or bathtub, standard flush toilet, lavatory, and kitchen sink in the dwelling; individual laundry and laundry trays; sewer or cesspool connections.

All of the houses in each of the categories may not correspond in every detail.

The three classes of physical condition are as follows:

*Class A.*—A dwelling requiring major repairs or thorough renovating or possibly complete replacement.

*Class B.*—A dwelling requiring general, but not major, repairs and painting.

*Class C.*—A dwelling which has been well maintained and repaired, or which has been built, remodeled, or thoroughly renovated within the past 5 years and well maintained since.

Source: Exhibit E in the sugar industry—ILWU agreement effective November 19, 1946.

## CHAPTER 6. WAGES AND WORKING CONDITIONS

### WAGE STRUCTURE IN 1947

The study of hours and earnings in the industry is based on data obtained from eight selected plantations. Major factors considered in the selection of the sample (approximately one-fourth of the plantations) included management, irrigation, location, wage schedule, unionization, and plantation size as measured by employment. Each of the four sugar-producing islands was represented, three plantations having been chosen on the island of Hawaii, two each on Kauai and Maui, and one on Oahu.

February 1947 was selected as the period for study. Strikes that occurred in the industry during the latter part of 1946 necessitated changes in plantation operation schedule with the result that February, ordinarily an off-season harvesting period, appeared to be representative in respect to the various fields of activity associated with the production of sugar. Data were obtained for adult men workers other than those employed in managerial, supervisory, and professional positions.<sup>1</sup> The type of work and racial group classifications appearing in the report are those used in the industry.

Straight-time average hourly earnings of 5,993 men employed on the plantations studied amounted to 94 cents in February 1947. However, a substantial majority of these workers received less than this amount, as indicated in table 19, which shows that 65.1 percent of the men earned less than 95 cents per hour. A small number of workers were found to be earning less than 70 cents an hour at the time of the study; most of these workers were employed on the island of Hawaii, in cleaning camps and in yard work.

**TABLE 19.**—*Percentage distribution of men workers on Hawaiian sugar plantations by straight-time average hourly earnings<sup>1</sup> and method of wage payment, February 1947*

Annual hourly earnings <sup>1</sup>	All workers	Hourly rate workers	Contract workers	Salaried workers
Under 70.0 cents.....	1.0	1.3	-----	-----
70.0 to 72.4 cents.....	8.8	10.2	7.0	0.4
72.5 to 74.9 cents.....	11.0	14.4	2.6	.2
75.0 to 77.4 cents.....	4.5	5.5	2.5	.2
77.5 to 79.9 cents.....	10.5	13.4	3.4	.6
80.0 to 84.9 cents.....	11.3	13.4	6.4	3.7
85.0 to 89.9 cents.....	11.3	12.8	8.8	4.5
90.0 to 94.9 cents.....	6.7	5.8	11.1	4.3
95.0 to 99.9 cents.....	4.6	4.1	6.8	3.9
100.0 to 104.9 cents.....	8.1	6.7	14.5	5.7
105.0 to 109.9 cents.....	4.5	3.7	7.9	4.3
110.0 to 114.9 cents.....	3.1	1.5	9.6	2.9

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>1</sup> Employees in the following positions or activities were specifically excluded: Manager and assistant manager; heads of shops and industrial departments; office manager; cost accountant; head timekeeper; doctor; personnel officer; and employees engaged during any part of the selected 4-week pay-roll period in long-term cultivation work. Women and minors play a relatively unimportant role in the sugar industry. Very few minors are normally employed except during the summer vacation when considerable numbers obtain part- or full-time employment. This is discussed in the section on child labor in this report (ch. 25).

TABLE 19.—Percentage distribution of men workers on Hawaiian sugar plantations by straight-time average hourly earnings<sup>1</sup> and method of wage payment, February 1947—Continued

Annual hourly earnings <sup>1</sup>	All workers	Hourly rate workers	Contract workers	Salaried workers
115.0 to 119.9 cents.....	2.2	0.8	4.4	8.7
120.0 to 124.9 cents.....	1.5	.7	2.4	6.6
125.0 to 129.9 cents.....	3.0	2.8	3.0	5.3
130.0 to 134.9 cents.....	1.0	.5	1.3	4.7
135.0 to 139.9 cents.....	1.1	.5	1.8	4.9
140.0 to 144.9 cents.....	1.0	.3	1.9	4.9
145.0 to 149.9 cents.....	.8	.3	1.7	3.3
150.0 to 159.9 cents.....	1.0	.4	1.5	5.1
160.0 to 169.9 cents.....	.8	.1	.4	7.7
170.0 to 179.9 cents.....	.9	.4	.9	5.5
180.0 cents and over.....	1.3	.4	.1	12.6
Total.....	100.0	100.0	100.0	100.0
Total number of workers.....	5,993	4,377	1,129	487
Average hourly earnings <sup>1</sup> .....	\$0.94	\$0.87	\$1.01	\$1.35

<sup>1</sup> Excludes premium pay for overtime and night work.

Although many jobs, especially in cultivation and harvesting work, were paid on a contract (piecework) basis, the great majority of the workers in the industry were employed in jobs that carried an hourly rate. Of the nearly 6,000 workers included in the study, 73 percent were hourly rated employees, 19 percent were engaged in contract work, and the remaining 8 percent were salaried employees. The average earnings of contract workers (\$1.01) exceeded that paid to hourly rated employees by 14 cents an hour, but were well below the \$1.35 averaged by salaried employees. The latter group was made up, for the most part, of office employees, employees in the first level of supervision (lunas, overseers), and employees with special skills and training.

The pattern of earnings in this as in any industry is determined by a number of related factors. The factors that play a major part in the sugar industry in determining the proportion of employees at various earnings levels can be summarized as follows: (1) The job-classification plan and wage schedule agreed upon by management and labor; (2) the placement of jobs in the various labor grades; (3) the proportionate employment thus concentrated in any given labor grade; (4) the influence on earnings of contract work; and (5) the influence of personalized rates.

While adjustments in the basic wage rates applicable to the established labor grades will probably continue to be the most important factor in re-forming the earnings picture, other factors will, over time, bring about shifts in the wage structure. Mechanization, for example, may completely eliminate certain hand jobs and involve the establishment of new jobs that justify a placement in the labor grade scale quite different from that held by workers performing the tasks by hand methods. An illustration of the effect of even a partial mechanization of a process engaging large numbers of workers is to be seen in the use of mechanical equipment in harvesting sugarcane. Although all of the plantations have not been able to discontinue the older hand-cutting method, the proportion of the labor force engaged in harvesting work has already been greatly reduced. The present study revealed that 17 percent of men workers were employed in harvesting occupations in

February 1947, whereas a similar study conducted in 1939 (covering a March pay-roll period) reported 41 percent of the force to be engaged in this field of activity. The proportions employed in each of the other types of work increased during the 8-year period, the greatest increases, on a percentage basis, being noted in transportation work, maintenance work, and clerical work. Changes in work methods will often eliminate or lessen the need for unskilled workers in the operation involved and the proportion of the labor force classified in the lower-pay grades will, therefore, tend to become smaller.

Job representation in all or most of the labor grades was found in each general type of work activity. As shown in table 20, individual earnings ranged from less than 70 cents to \$1.80 or more in each of the six major types of work divisions, a single exception being found in the case of clerical work, in which the lowest individual rates fell in the 72.5-74.9-cent earnings bracket. Because a larger proportion of the workers employed in clerical and maintenance were in jobs classified in the higher labor grades, the group earnings in these types of work averaged well above the average rates paid in cultivation, transportation, manufacturing, and industrial service work. The comparatively high average earnings reported for harvesting workers may have been partly due to the large proportion (one-half) of workers employed in harvesting jobs that were paid on a contract basis (see table 21).<sup>2</sup>

TABLE 20.—Percentage distribution of men workers on Hawaiian sugar plantations, by straight-time average hourly earnings<sup>1</sup> and type of work, February 1947

Average hourly earnings †	Total	Culti- vation	Har- vest- ing	Trans- porta- tion	Manu- factur- ing	Main- tenance	Indus- trial service	Cleri- cal
Under 70.0 cents.....	1.0	0.8	0.2	0.2	0.2	0.6	7.2	-----
70.0 to 72.4 cents.....	8.8	17.0	4.5	1.3	7.0	3.4	21.7	-----
72.5 to 74.9 cents.....	11.0	15.1	8.4	11.4	11.4	10.2	7.6	1.0
75.0 to 77.4 cents.....	4.5	6.3	2.8	3.2	6.1	3.0	5.7	1.0
77.5 to 79.9 cents.....	10.5	12.0	7.6	7.8	15.1	10.5	9.2	3.6
80.0 to 84.9 cents.....	11.3	9.1	11.4	14.9	20.9	5.9	10.5	4.7
85.0 to 89.9 cents.....	11.3	8.9	5.2	23.9	13.9	13.7	5.5	9.8
90.0 to 94.9 cents.....	6.7	6.7	7.4	11.8	6.1	4.9	5.1	4.1
95.0 to 99.9 cents.....	4.6	3.6	7.6	5.3	3.4	2.6	7.6	5.7
100.0 to 104.9 cents.....	8.1	6.6	10.8	5.6	4.4	13.8	3.4	7.9
105.0 to 109.9 cents.....	4.5	2.8	7.2	3.4	3.4	6.6	2.1	6.7
110.0 to 114.9 cents.....	3.1	1.8	8.0	3.8	1.4	1.9	1.7	4.7
115.0 to 119.9 cents.....	2.2	2.0	4.5	1.6	.2	1.6	2.5	5.2
120.0 to 124.9 cents.....	1.5	1.2	1.9	2.1	.5	1.9	2.1	1.6
125.0 to 129.9 cents.....	3.0	1.0	3.2	1.0	.8	9.4	.8	3.1
130.0 to 134.9 cents.....	1.0	.5	1.6	.3	.3	1.4	1.5	5.2
135.0 to 139.9 cents.....	1.1	1.2	.8	.5	.5	1.3	1.3	4.7
140.0 to 144.9 cents.....	1.0	.8	1.6	1.0	.2	.6	.6	6.2
145.0 to 149.9 cents.....	.8	.3	1.8	.2	.5	.7	.4	3.6
150.0 to 159.9 cents.....	1.0	.5	1.9	.2	.6	1.4	.6	3.1
160.0 to 169.9 cents.....	.8	.7	.2	.2	.5	1.3	.2	5.7
170.0 to 179.9 cents.....	.9	.5	1.1	-----	.8	1.6	.6	2.6
180.0 cents and over.....	1.3	.6	.3	.3	1.8	1.7	2.1	9.8
<b>Total.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Total number of workers.....	5,993	1,534	1,025	625	971	1,173	472	193
Average hourly earnings †.....	\$0.94	\$0.88	\$0.99	\$0.91	\$0.89	\$1.00	\$0.89	\$1.24

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> Data obtained from the cooperating firms did not permit a determination of the proportions classified within each of the 10 labor grades provided in the job classification system.

TABLE 21.—*Straight-time average hourly earnings<sup>1</sup> of men workers on Hawaiian sugar plantations, by type of work and method of wage payment, February 1947*

Field of work	All men workers		Hourly rate workers		Contract workers		Salaried workers	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Cultivation.....	1,534	\$0.88	923	\$0.80	465	\$0.92	146	\$1.23
Harvesting.....	1,025	.99	450	.84	506	1.11	69	1.15
Transportation.....	625	.91	535	.88	79	1.05	11	1.43
Manufacturing.....	971	.89	860	.85	58	.85	53	1.61
Maintenance.....	1,173	1.00	1,102	.97	14	1.15	57	1.49
Industrial service.....	472	.89	399	.81	7	1.13	66	1.31
Clerical.....	193	1.24	108	1.04	-----	-----	85	1.50
Total.....	5,993	.94	4,377	.87	1,129	1.01	487	1.35

<sup>1</sup> Excludes premium pay for overtime and night work.

One-half of the men workers employed on these sugar plantations were Filipinos. The second largest racial group, the Japanese, account for fully one-third of the force. As shown in table 22, the racial composition of the work force differed greatly from one type of work to another. Whereas Filipinos outnumbered Japanese by 4 to 1 in harvesting work, there were nearly five times as many of the latter group in clerical jobs and Japanese outnumbered Filipinos by 2½ to 1 in maintenance work. It should be pointed out that many of the Filipino workers on sugar plantations were brought in during the last few years and, lacking previous work experience in the industry, they were generally employed in field or mill jobs requiring little training. Earnings of Filipino workers, as a group, averaged 86 cents an hour in February 1947, 8 cents below the average earnings of all men workers combined, and 6 cents less than the average wage rates paid to Puerto Ricans, who had the next lowest earnings. (See table 23.)

TABLE 22.—*Percentage distribution of men workers on Hawaiian sugar plantations, by type of work and racial group, February 1947*

Racial group	Total	Cultivation	Harvesting	Transportation	Manufacturing	Maintenance	Industrial service	Clerical
Filipinos.....	50.0	60.6	71.8	38.1	66.0	23.1	32.2	14.0
Japanese.....	34.2	26.9	17.5	24.3	27.0	57.4	49.8	68.5
Portuguese.....	9.4	6.8	7.7	23.2	2.8	12.7	8.7	9.8
Puerto Ricans.....	2.2	2.2	1.1	6.7	.9	1.6	3.8	.5
Hawaiians and part-Hawaiians.....	2.1	1.8	.8	5.4	1.0	2.6	2.8	1.0
Anglo-Saxons.....	.8	.8	.4	.3	1.0	.9	.8	3.1
Chinese.....	.5	.2	.3	.2	.7	.7	.4	3.1
All others.....	.8	.7	.4	1.8	.6	1.0	1.5	-----
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
All races: Number of workers.....	5,993	1,534	1,025	625	971	1,173	472	193

TABLE 23.—*Straight-time average hourly earnings<sup>1</sup> of men workers on Hawaiian sugar plantations, by racial group, February 1947*

Racial group	Number of workers	Average hourly earnings <sup>1</sup>
All races.....	5,993	\$0.94
Filipinos.....	2,995	.86
Japanese.....	2,047	.99
Portuguese.....	564	1.06
Puerto Ricans.....	134	.92
Hawaiians and part-Hawaiians.....	124	.95
Anglo-Saxons.....	49	1.54
Chinese.....	30	1.27
All others.....	50	.95

<sup>1</sup> Excludes premium pay for overtime and night work.

Straight-time average hourly earnings in each of 24 selected occupations are presented in table 24. Due to differences in mechanization and work methods, each of the occupations was not found on all plantations. Cane cutters, for example, were employed only on the plantations on the island of Hawaii.

TABLE 24.—*Average straight-time hourly earnings<sup>1</sup> for men workers in selected occupations on Hawaiian sugar plantations, February 1947*

Occupation	Number of employees	Average hourly earnings <sup>1</sup>	Occupation	Number of employees	Average hourly earnings <sup>1</sup>
Cane cutters.....	300	\$0.97	Locomotive brakemen.....	33	\$0.85
Carpenters, journeymen.....	35	1.22	Locomotive engineers.....	27	1.16
Crusher feeders.....	18	.79	Machinists, journeymen.....	16	1.30
Fertilizers (hand).....	34	1.08	Meat cutters.....	11	1.02
Ground crewmen (rake or grab A).....	220	.93	Mill firemen.....	23	.84
Hand weeders (hoe).....	169	.79	Mill tenders.....	34	.84
High-grade-centrifugal operators.....	39	.84	Pan men (senior).....	28	1.07
Internal-combustion-engine mechanics, journeymen.....	17	1.22	Sales clerks.....	26	.93
Irrigators.....	108	.80	Seed cutters.....	63	.98
Janitors.....	22	.74	Tractor drivers, 'A'.....	85	1.03
Juice-pan men.....	16	.75	Truck helpers.....	97	.76
Loading-machine operators (grab A).....	54	1.19	Utility truck drivers (under 5 tons).....	83	.86

<sup>1</sup> Excludes premium pay for overtime and night work.

Among the occupations studied, janitors had the lowest average earnings (74 cents) and journeymen machinists, averaging \$1.30, were the highest-paid workers. The range of individual earnings within each of the occupations in the list amounted to 22 cents an hour or more, and in seven of the occupations this range exceeded 50 cents. Although variations in earnings of individuals employed on contract work explains much of the dispersion of earned rates in those occupations in which contract work is common, equally wide ranges of individual rates were reported in occupations that are typically or universally paid on a straight-time basis. A higher wage scale maintained on several plantations by union agreement, together with personalized rates paid to many employees, are assumed to be the major factors contributing to the spread in earnings found in the hourly-rated jobs.



Among the selected jobs, average hourly earnings tended to be lower on the island of Hawaii than on the other sugar-producing islands. Although the recent introduction of the job classification plan and wage schedule is believed to have had the effect of narrowing the interisland wage spread, differences in occupational wage rates did still exist at the time of the study. This situation remained as a result of the maintenance of personalized rates above the labor grade rate (more common on Oahu, Kauai, and Maui than on the island of Hawaii), and higher wage schedules, set forth in the union agreement, on a few plantations, none of which are located on the island of Hawaii. An illustration of the lower level of wages existing on the island of Hawaii is provided in the case of three jobs, important from the standpoint of the number of workers employed in them. (See table 25.)

TABLE 25.—Average straight-time hourly earnings<sup>1</sup> for men workers in selected occupations on Hawaiian sugar plantations, by island, February 1947

Occupation	Island of Hawaii		Island of Oahu, Kauai, and Maui	
	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers	Average hourly earnings <sup>1</sup>
Hand weeders (hoe).....	85	\$0.76	84	\$0.82
Truck helpers.....	35	.74	62	.77
Utility truck drivers (under 5 tons).....	36	.85	47	.87

<sup>1</sup> Excludes premium pay for overtime and night work.

In occupations in which contract workers as well as hourly rated workers were employed, it was found that the average straight-time hourly earnings of the contract workers, as a group, were higher than those paid to workers employed on a time basis. Cane cutters working on a contract basis, for example, averaged 35 percent more than did hourly rated workers in the same job. The straight-time average hourly earnings in three jobs, shown separately for contract workers and hourly rated workers, point out the wage advantage to workers in the contract method of wage payment.

TABLE 26.—Average straight-time hourly earnings<sup>1</sup> for men workers in selected occupations on Hawaiian sugar plantations, by method of wage payment, February 1947

Occupation	Hourly rate		Contract	
	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers	Average hourly earnings <sup>1</sup>
Cane cutters.....	81	\$0.78	219	\$1.05
Ground-crew men.....	111	.83	109	1.04
Hand weeders (hoe).....	106	.73	63	.88

<sup>1</sup> Excludes premium pay for overtime and night work.

The higher earnings on contract work may help explain part of the interisland differences in wage levels found in some occupations. As indicated earlier, hand weeders on the island of Hawaii averaged 76

cents, 6 cents less than the combined average on the other islands. Time workers in this job averaged 72 cents on Hawaii, as compared with an average rate of 76 cents on the other islands. The greater differential found on the basis of averages representing a grouping of time workers and contract workers is due to the fact that only 18 of the 85 weeders on Hawaii were contract workers whereas 45 of the 84 workers in the occupation on the other islands were employed on this basis.

Work performed in excess of 8 hours per day (except when changing shifts) or in excess of 48 hours in any 1 week was paid for at one and one-half times the regular rate of pay.<sup>3</sup> The overtime rate also applied to work performed on nine holidays, with the added provision that if such holidays fell on Sunday or the employee's regularly scheduled day of rest, the following work day would be considered as the holiday and the overtime rate was to be paid.<sup>4</sup>

Overtime worked during the selected 4-week pay-roll period had the effect of increasing average earnings of all men workers combined by 3 cents an hour. Average hours worked, and consequently extra overtime earnings, varied greatly by field of work. Manufacturing employees averaged 206 hours of work during the 4-week period and their gross average hourly earnings amounted to 94 cents, or 5 cents above the straight-time average for the group. Harvesting workers averaged the lowest hours (172) and grossed \$1 per hour, as compared with a straight-time average of 99 cents. The average number of hours worked and the added amount averaged in other fields of work were: Transportation, 199 hours, 5 cents; maintenance, 189 hours, 4 cents; industrial service, clerical, 183 hours, 2 cents; and cultivation, 178 hours, 1 cent.

#### *Annual earnings*

The present study included a measurement of annual hours worked and annual earnings of individual workers. Because of the strike that took place in the industry during the latter part of 1946, the calendar year 1945 was selected for study. Annual hours and earnings data were obtained only for those employees who were included in the study of hourly earnings during the February 1947 period. Employees who worked during 1945 but were no longer on the pay roll in February 1947 were excluded. The earnings data are limited to cash earnings, exclusive of the value of perquisites provided by the employer.

It was found that nearly one-fourth of the 5,993 adult men workers employed on the 8 selected plantations in the 1947 period had been hired since the end of the year 1945.<sup>5</sup> As shown in table 27, the average annual earnings of 4,588 men workers combined amounted to \$1,396 in 1945. Many of these employees, however, had either been hired after the beginning of the year or had left the plantation during the year. Two-thirds of the men worked 2,000 or more hours during the year and, as a group, averaged \$1,633. On the 48-hour work-

<sup>3</sup> During the period in which the factory is shut down for its annual overhaul employees engaged in work subject to maximum-hour provisions of the Fair Labor Standards Act are paid overtime rates for time work in excess of 40 hours per week.

<sup>4</sup> The list of holidays includes: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, general election day, Thanksgiving Day, Christmas Day, and VJ-day or an alternative agreed upon by management and the union.

<sup>5</sup> Part of the difference between the February 1947 employment figure and the 4,588 workers included in the report of 1945 earnings represents men who were in the service or in other employment during the entire year 1945 but had returned to their old employment; also contributing to this difference is the fact that workers employed in long-term cultivation during any part of 1945 were excluded from the study.

week schedule maintained throughout most of the year on the plantations, workers who were on the pay roll during the entire year and who did not lose an excessive amount of time due to illness, injury, or other reason generally worked 2,400 hours or more during the year. Survey results indicated average earnings of \$1,827 for a group of 1,643 employees who worked 2,400 hours or more.

TABLE 27.—Percentage distribution of men workers on Hawaiian sugar plantations, by annual earnings and annual hours, 1945

Annual earnings	Total	Annual hours				
		Under 1,200	1,200 to 1,599	1,600 to 1,999	2,000 to 2,399	2,400 and over
Under \$400	3.6	44.8	0.5			
\$400 to \$599	3.9	31.1	11.4	2.2	0.1	
\$600 to \$799	6.7	16.1	25.6	10.1	4.3	0.6
\$800 to \$999	11.3	6.3	29.0	22.4	12.8	1.7
\$1,000 to \$1,199	14.4	1.4	21.0	22.3	21.3	6.2
\$1,200 to \$1,399	15.2		7.6	22.4	19.6	13.4
\$1,400 to \$1,599	12.4	.3	2.8	10.6	16.0	15.0
\$1,600 to \$1,799	10.4		1.8	5.0	9.6	17.9
\$1,800 to \$1,999	7.6		.3	3.4	6.2	14.3
\$2,000 to \$2,199	4.3			.5	3.1	9.0
\$2,200 to \$2,399	3.7			.4	2.1	8.4
\$2,400 to \$2,599	2.5			.4	2.0	5.1
\$2,600 to \$2,799	1.5			.3	.9	3.2
\$2,800 to \$2,999	.9				.9	1.8
\$3,000 and over	1.6				1.1	3.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of workers	4,588	366	395	774	1,410	1,643
Average annual earnings	\$1,396	\$420	\$907	\$1,165	\$1,408	\$1,827

TABLE 28.—Total Hawaiian sugar plantation pay rolls, 1939-47

Year	Amount	Year	Amount
1939	\$27,075,521	1944	\$34,469,027
1940	25,723,858	1945	37,581,582
1941	26,337,699	1946	37,786,148
1942	29,741,464	1947 (9 months)	146,653,066
1943	33,087,939		

<sup>1</sup> The estimated total of plantation pay rolls for 1947 was approximately \$60,000,000, an all-time high.

Source: Hawaiian Sugar Planters' Association.

#### LEAVE POLICY—VACATION AND SICK LEAVE

##### Vacation

Paid vacations were provided by terms of the union contract to all employees who qualified on the basis of having worked 265 days in the 12-month period preceding July 1 or their employment anniversary date. Qualified employees received a week's vacation (6 days) credit for the first 265 work days and an additional day of vacation for each unit of 6 days worked in excess of that number of days. A limit of two calendar weeks (12 days) of vacation was allowed in any one calendar year and vacation credit was not cumulative. Vacation pay was computed on the basis of the eligible employee's straight-time hourly rate if on day work, or his average straight-time earnings for all days worked if on piece work.

Employees received credit for purposes of computing their vacations for (a) lost time due to illness up to a maximum of 12 work days

when excused by the plantation; (b) lost time due to industrial accidents up to a maximum of 30 work days; (c) authorized vacation leave taken during the year; (d) regularly scheduled work days if no work was offered on such days, including the off-season; and (e) nine holidays.

#### *Sick leave*

Effective on the date of the conversion of perquisites, a sick benefit allowance plan was put into effect. As provided in the union agreement, covered hourly rated employees received benefit payments for disability, lasting more than 3 work days, resulting from sickness or accident not incurred in the performance of their duties in accordance with the following schedule:

Years of service:	Total days of benefit per year at two-thirds pay
1 year but less than 2 years.....	6
2 years but less than 3 years.....	12
3 years but less than 4 years.....	18
4 years but less than 5 years.....	24
5 years or more.....	30

Benefit payments were payable beginning with the fourth workday of disability and unused benefit allowances could not be accumulated from year to year.

#### SEASONALITY AND EMPLOYMENT TRENDS

Continuity of employment in the production of Hawaiian sugar is comparable to employment in manufacturing operations that have minor seasonal fluctuations rather than to typical mainland agricultural operations. The equable climate of Hawaii makes possible the continuous growth of sugar and it is technically possible to carry on every type of operation every day in the year.

At least once a year the mill is stopped for a thorough overhauling which requires 1 to 2 months, usually sometime between the first of October and the end of December.

Sugarcane cannot be stored for more than 48 hours, hence much of the field work ceases during the repair period. In the past, plantation management has made an effort to carry its employees through this period by using the time not only for mill repairs but for general overhauling of the whole plantation including the repair of roads, irrigation ditches, railways, power plants, and the building and painting of houses, offices, and shops.

In normal prewar times<sup>6</sup> there were three periods in the yearly cycle of employment on the plantation. The slack period extended over the last 4 months of the year, the lowest point generally occurring in October or November. Employment rose in January and continued to rise moderately for several months, reaching a peak in June or July. During the summer months the industry employed approximately 7 percent more workers than were normally employed throughout the year.

An examination of the employment figures for the period 1939 to 1948 reveals (1) a marked decline in total plantation employment until the time of the "travel freeze" in December 1941; (2) a slightly

<sup>6</sup> For the details of prewar seasonality and turn-over see Bureau of Labor Statistics Bulletin No. 687 Labor in the Territory of Hawaii, 1939, pp. 57-61.

declining level of employment throughout the war; (3) a further sharp decline with the lifting of the "travel freeze" when the war terminated in 1945; (4) a bulge in employment (between the end of 1945 and the sugar strike which began September 1, 1946) because of the importation of Filipinos;<sup>7</sup> (5) a drastic drop during the strike which lasted from September 1, 1946, to November 18, 1946; (6) a sharp return to near-normal levels (but lower than the level of employment which existed before the strike began) from November 1946 until the end of 1947; and (7) obliteration of seasonal changes.<sup>8</sup>

Thus it is clear that throughout the period from 1939 to 1948 other and abnormal factors have had a far more pronounced effect on the levels of employment than have seasonal factors; in fact, they have obliterated any evidence of seasonality.

Presumably the normal prewar pattern of seasonality of employment will eventually return at a lower over-all employment level (because of mechanization), but at the time this study was made no seasonality was observable in employment figures.

#### EARNINGS OF LONG-TERM CULTIVATORS

To understand long-term cultivation contracts, it is necessary to remember that plantations are divided into fields for the purpose of maintaining planting and harvesting programs which will provide a continuous supply of cane to the mill. Such fields necessarily vary greatly in size due to problems of irrigation, topography, and transportation, and range from 25 to over 300 acres. The contract period for the long-term cultivators begins when the cane "covers in" (i. e., has covered the field so completely that weeding is no longer necessary) and ends just prior to the harvesting. Each gang of long-term cultivators has its own contract which covers the particular field or fields to which the gang is assigned. The work consists primarily of irrigation, including fertilizing (the fertilizer being added to the irrigation water). Payments are made at an agreed rate per ton upon the basis of the number of tons harvested from the field, hence it is to the interest of each gang to provide cane with the best possible conditions for growth.

Workers generally consider the assignment to a long-term contract as a promotion, since the work involves more responsibility and less supervision. The average daily earnings for long-term cultivators are higher than the average for all field labor.

In the central office each field is carried as a separate unit on the company's books and is continuously checked as to the date it will be ready for harvesting. These records also serve as a basic plantation unit for cost analyses. Costs are carefully allocated by fields and unless a field yields enough to cover its costs, it is abandoned as an area of cultivation.

When all preliminary work of preparing and planting is completed, the contract is let to a gang of workers, generally led by an old experienced plantation hand in whom the management has confidence. The size of the gang will vary with the size of the field and the difficulties of irrigation. When the contract period is completed, the long-

<sup>7</sup> Of the 6,126 Filipinos who were imported under an arrangement with the Department of the Interior 4,237 were assigned to the sugar plantation.

<sup>8</sup> With the exception of minors who obtained employment during summer vacations. See ch. 25 on the school-work program during the war.

term cultivators are paid an amount equivalent to the agreed rate per ton multiplied by the number of tons harvested by the field under contract. This sum is then divided by the number of man-days and each member of the gang is paid in accordance with the number of man-days he worked. Advance payments are made during the contract period, plus a lump-sum payment at the time of the harvest. Climatic conditions may vitally affect production, hence, if in the judgment of the management injustices occur because of this, adjustments are made.

The process of arriving at the final payment is extremely complicated.<sup>9</sup> The over-all average payment per man-day for long-term cultivators is indicated in table 29.

TABLE 29.—Average daily earnings of long-term cultivators, 1939-46

Year	Average daily earnings	Year	Average daily earnings
1939.....	\$2.35	1943.....	\$3.96
1940.....	2.38	1944.....	4.38
1941.....	2.61	1945.....	5.01
1942.....	3.26	1946.....	4.97

<sup>1</sup> Average earnings in 1946 were affected by the 79-day sugar strike beginning on Aug. 31.

#### THE ADHERENT-PLANTER SYSTEM

The adherent-planter system represents an adjustment of the sugar industry to the topography of Hawaii. Small areas of land suitable for growing cane are often isolated from the main body of the plantation land by (1) deep ravines, (2) small rivers, (3) long narrow lava flows, and (4) excessively steep slopes. It is not practicable to include this land in the mass production field operations of the plantation, hence the usual practice is to make special agreements with "adherent planters" for the cultivation of such isolated areas. Contracts vary in accordance with local conditions, and the terms of agreement have gradually developed with experience by a process of trial and error.

Some agreements make the adherent planter little more than a "long-term cultivator." Other contracts provide a greater freedom of action. In all of them, however, the plantation management, rather than the adherent planter, determines the time of planting and fertilizing and the measures to be taken against insects and plant diseases.

Although there are a few such planters on Kauai and Oahu, 98 percent of the adherent planters work under contract with the plantations on the island of Hawaii. There was a decline in the number of adherent planters between 1940 and 1947 because of the unusual opportunities for employment afforded by war construction. It is probable that a number of these abandoned plots which were on marginal land will remain uncultivated.

The number of adherent planters constantly fluctuates, the total being slightly less than 1,800 in November 1947. The average area of land cultivated by adherent planters at that time was about 11 acres.<sup>10</sup> Fifty-seven percent of the area under this system is cultivated

<sup>9</sup> For detailed discussion of this, see Bureau of Labor Statistics' Bulletin No. 687, *Labor in the Territory of Hawaii, 1939*, pp. 67-69.

<sup>10</sup> 20,145 acres were under cultivation by adherent planters in November 1947.

by "plantation planters" who have various forms of leases, subleases, and cane purchase agreements on land owned by the plantations. They are often employed by the plantations when not working in their leased fields. The remaining 43 percent of the area is operated by "outside planters," who either own their own land or lease land not owned by the plantations. Many of the outside planters have homes on their own land.

In most cases adherent planters are not able to finance themselves entirely and are dependent on the plantations for credit. The income of the adherent planter<sup>11</sup> is dependent upon his own bargaining capacity, his industry, and his ability as a farmer; that is, he is an independent contractor, not a wage earner.

<sup>11</sup> Adherent planters live in widely scattered, isolated areas that are difficult to reach. Their records of earnings are generally inadequate (and in some cases nonexistent). For these reasons a study of adherent-planter incomes was not feasible within the limitations of personnel and funds available for this report.

## CHAPTER 7. THE LABOR MARKET AND THE ECONOMICS OF THE HAWAIIAN SUGAR INDUSTRY

The sugar plantations have suffered from repeated shortages in the supply of labor for plantation work from the earliest beginnings of the industry to the present time. Until 1933, a primary cause was the continuous expansion of the industry. Two additional factors have been operative throughout the history of the industry and remain important today: (1) The return of plantation laborers to their countries of origin or their migration to the American mainland (the principal returnees being Filipinos who constitute a large element in the unskilled labor force on the plantations). (2) The rise in educational and living standards among island-born citizens who look upon plantation labor as an unacceptable way of life and who tend to crowd into Honolulu rather than to remain on the plantations.

The shortage became so acute toward the end of the war that on June 28, 1945, the Hawaiian Sugar Planters' Association requested that 6,000 Filipino laborers be imported. On July 5, the Pineapple Producers' Association requested an additional 3,100. The Governor approved these requests on the basis of a reduced joint importation for both industries of about 6,000 Filipinos.<sup>1</sup> The Department of the Interior accepted this recommendation and a total of 6,126 Filipinos were imported, 4,237 being assigned to the sugar plantations and 1,889 to the pineapple plantations. As an indication of the trend from the plantations to the cities, by April 1947, 1,435, or 35 percent of the total allotment of Filipinos assigned to the sugar plantations had gone to Honolulu<sup>2</sup> or into other industries in spite of the fact that the plantations still faced an acute shortage of labor.

By 1947, the sharp decline in Federal construction and other civilian employment for the Army and Navy together with the return of war veterans tended to flood the labor market and to develop a rising tide of unemployment in Honolulu. In spite of this fact, the plantations still faced a shortage of labor. In the spring of 1947 many vacancies (particularly in skilled classifications) were listed by the plantations with the Territorial employment service.

The explanation for the apparent paradox of a labor shortage on the plantations at that time and growing unemployment in Honolulu involves a study of complex and opposing tendencies.

The factors which tended toward a relative shortage of labor on the plantations during the first part of 1947 were:

(1) The gradual shift in the population from uneducated imported aliens to educated island-born Americans whose ambition takes them away from plantation work.

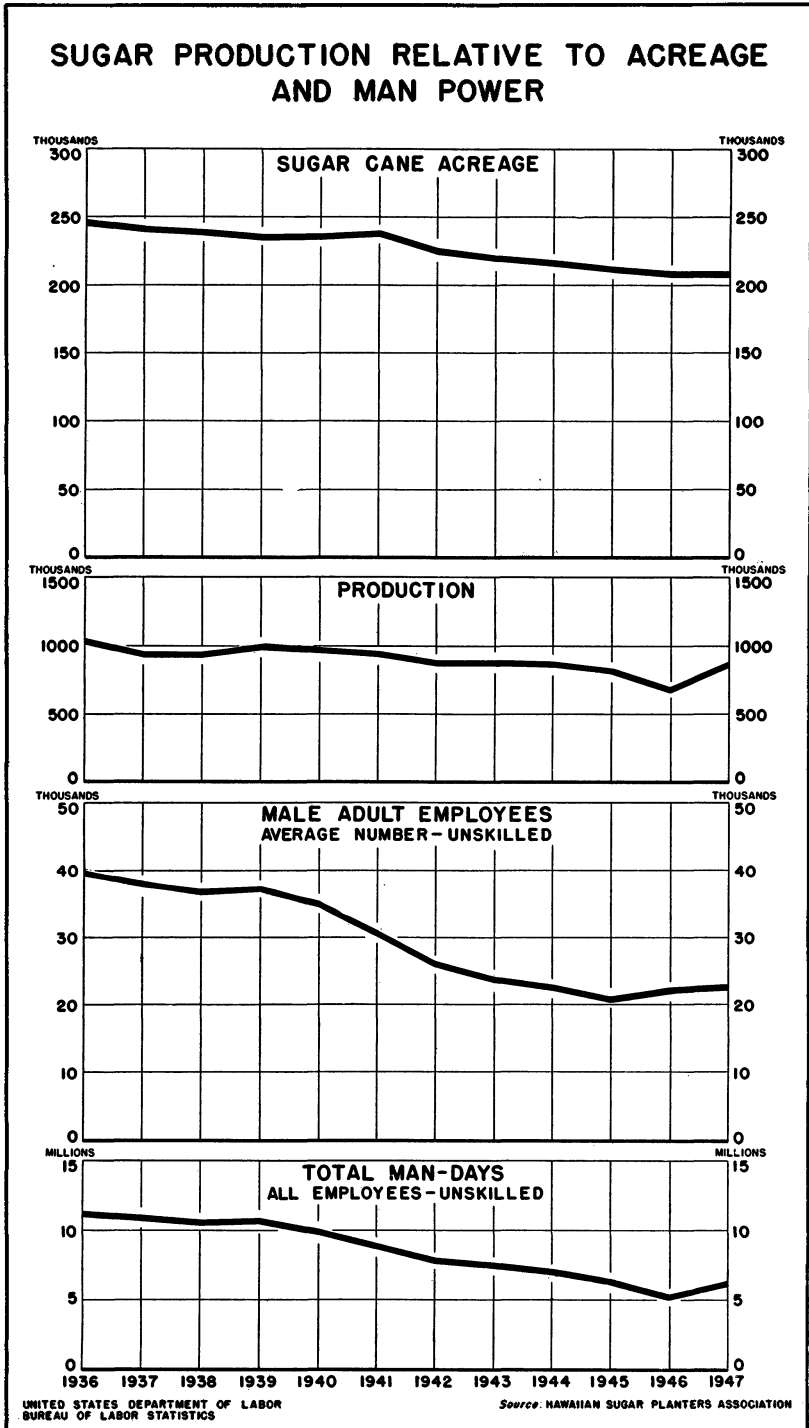
(2) The employment opportunities offered in the postwar construction industry.

(3) The fact that wages in some other fields of work (even for unskilled labor) are higher.

<sup>1</sup> The act of 1935 restricted the annual immigration of Filipinos to a quota of 50 but provided that the number could be increased at the discretion of the Director of Insular Affairs, Department of the Interior, should conditions justify it.

<sup>2</sup> Conferences indicated that some of the Filipinos who were recruited for plantation fieldwork had education and training considerably above that required for such work. This was an important factor affecting those who moved to Honolulu.





(4) The fact that large sums of money were made during the war years which now provide a backlog for the maintenance of higher levels of economic activity in Honolulu.

(5) General unemployment benefits as well as the bonus and the unemployment compensation available to returned veterans.

(6) The tendency to establish numerous small enterprises (groceries, drug stores, restaurants, service stations, curio shops, barber shops, florist shops, and the like) which makes wage earners into own-account employers.

Most of these factors were short-lived, however. The increase in plantation wages during the latter half of 1947, the further mechanization of plantation operations and a marked drop in the price of sugar caused a decline in the demand for plantation labor. At the same time, a general decline in employment throughout the Territory resulted in an increase in the supply of labor. There was thus a marked change in the labor market between the summer of 1947 and the spring of 1948.

The industry is now more vulnerable to higher costs and other adverse influences than it would have been in the earlier stages of its history. By 1933 it had expanded into marginal land which has since become unprofitable to cultivate as production costs have increased. This is clearly indicated by employment and production figures. According to the HSPA, the total number of employees on sugar plantations declined from 44,605 in 1939 to 26,916 in March 1947. Sugar production declined from 8,609,543 short tons of cane in 1939 to 7,371,158 short tons of cane in 1945.<sup>3</sup>

From its beginning, Hawaiian sugar has been increasingly supported by favorable Federal policies: (1) by a Reciprocal Trade Agreement with the United States established in 1876, (2) by the protection of the American tariff system established in 1898, (3) by the Jones-Costigan Act of 1934 which brought Hawaii within the American sugar quota system. Under these conditions it was profitable to intensify cultivation in terms of labor, fertilizer, and irrigation and to extend acreage to less favorable areas of land. By 1933 the industry had achieved its optimum expansion. At the then prevailing wage rates and other production costs, the intensive and extensive margins for the cultivation of sugar had reached their limits. The rise in wages between 1933 and 1940, the wartime labor shortage, the further sharp rise in wages since 1944, and the increase in other production costs have forced the industry to retreat from both margins. It is no longer possible to apply labor to sugar production as intensively as it was applied a decade ago. For the same reasons, it is not possible to cultivate as large an acreage as before. The total area in sugarcane declined from 252,237 acres in 1934 to 208,376 in 1946. The obvious means of combating higher costs is increased mechanization, but there are three types of fields which necessarily require the continued use of a large number of field laborers: (1) Those that lie on excessively steep slopes, (2) those that are divided by old lava flows into small, and often rocky, areas, and (3) those that are isolated from the main body of the plantation by deep ravines.

Plantations consisting primarily of such fields are at a decided disadvantage in attempting to offset higher costs by increased mechanization. As production on such plantations declines, the overhead

<sup>3</sup> The sugarcane production for 1946 was 6,002,127 short tons but is not a valid indication of the downward trend because the sugar strike in the autumn of 1946 made that year one of abnormally low production.

costs for the maintenance of the mill and other basic plantation operations remain relatively fixed and must be allocated to a smaller output; hence there is a rapid increase in the production cost of sugar per ton.

Because of the decrease in the number of plantations, there is an exaggerated impression in the Territory as to the total decrease in cane acreage. The best land of the liquidated plantations has been absorbed by adjoining plantations, thus increasing their scale of operations and decreasing overhead cost per unit of production; only the poor lands on such plantations are being abandoned. As of 1947, two plantations were in the process of harvesting the remaining fields of cane preparatory to a liquidation of operation.

The decline in acreage does not necessarily indicate a continued decline in over-all production in Hawaii, however, for the following reasons:

(1) Improvement in strains of cane, in the use of fertilizer, and in the control of plant diseases and pests continues to be available to all plantations.

(2) Mechanization tends to offset the higher costs on the better sugar lands. Programs for further mechanization, which were sharply retarded by the war because new equipment could not be purchased, are being carried forward as machine production returns to normal levels.<sup>4</sup>

(3) Many of the factors which are presently causing the labor shortages are temporary:

(a) The reserves accumulated from war profits are being expended which will force those living on such reserves into the labor market.

(b) It appears improbable that all of the numerous small enterprises established during the postwar period can survive; some of the self-employers will again become wage earners.

(c) Bonus payments and unemployment benefits to veterans will not continue at present levels.

(d) Federal expenditures in Hawaii are rapidly declining to normal levels with a corresponding decrease in Federal employment.

The pressure for employment rose during 1947 and the exodus from the plantations is being checked. The decrease in heavy muscular work through mechanization, improvements in living conditions in plantation communities, the increase in transportation facilities which makes it possible to go to near-by cities at frequent intervals, and the recent wage increases are added inducements toward a stabilization of plantation labor. It is possible that the need for employment may even lead to a temporary reversal of the flow from the plantation to the city.

From a broader point of view, the basic factors affecting future production are the price of sugar and the competitive position of other sugar-producing areas. Unless there is an unexpected upward trend in the price of sugar, any considerable expansion of the Hawaiian sugar industry over prewar levels does not seem probable, but assuming an increase in mechanization and a stabilization of the labor on the plantations, production can be stabilized at or near the 1,052,000 tons<sup>5</sup> per year, the figure which was established as Hawaii's quota in August 1947.

<sup>4</sup>In October 1947 the Hawaiian Sugar Planters' Association announced that comprehensive plans for mechanization during 1948-49 had been adopted throughout the entire industry.

<sup>5</sup>In October 1947 the HSPA estimated that sugar production in Hawaii would reach the established quota "by 1951 or prior to 1952."



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**PART III**  
**THE PINEAPPLE INDUSTRY**

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## CHAPTER 8. THE DEVELOPMENT AND ORGANIZATION OF THE INDUSTRY

### DEVELOPMENT OF THE PINEAPPLE INDUSTRY

Pineapples did not become a significant island product until the middle of the nineteenth century. In 1851, 21,310 pineapples were exported. The first pineapple plantation appeared in 1885 but as late as 1909 only 5,000 acres were in pineapples. In that year the Ginaca machine was developed for peeling and coring pineapples, which gave a great impetus to the canning of the fruit. By 1920 the land owned or leased by pineapple companies amounted to 46,845 acres.

Between 1920 and 1930 there was a marked shift in the areas under pineapple cultivation. During that decade, production on the island of Hawaii entirely ceased, whereas Lanai and Molokai became large-scale producers. The relatively small island of Lanai had been virtually useless until it was developed for pineapple production but it has since become one of the most important pineapple-producing areas in the Territory, being second only to Oahu.

Because the Hawaiian pineapple industry is much younger than the sugar industry, pineapple plantations have adopted a pattern of organization and of policies based on the experience of the sugar plantations. Its earnings, however, have been less stable than those of the sugar industry. The value of the pineapple pack, for example, reached a high of \$50,055,569 in 1930 but sank to only \$9,570,569 2 years later. This was followed by a marked recovery to \$59,454,976<sup>1</sup> in 1937 which was only \$4,000,000 less than the total value of sugar shipments in that year. The following year, however, there was a decline of 36 percent in the value of pineapple and juice.

The causes of this instability have been (1) the repeated inroads of insect pests and plant diseases throughout the history of the industry which can be controlled only by continuous scientific work and costly operations on the plantations; (2) climatic factors, particularly rainfall, which affect the quantity and quality of production; (3) the competition of other canned fruits,<sup>2</sup> which have a significant effect on the pineapple market; and (4) the fact that pineapples are a luxury food rather than a necessity so that an economic depression causes an unusually sharp drop in sales.

Prior to the war the Hawaiian industry represented 80 percent of the total world production of canned pineapples. The effect of the war was to diminish Philippine and Formosan production and to increase the relative importance of Hawaii. On the other hand, the industry now faces increased competition from Mexico and Puerto Rico.

### ORGANIZATION OF THE PINEAPPLE INDUSTRY

The pineapple industry has developed in the direction of large-scale plantation organization in much the same way and for the same

<sup>1</sup> By 1937 canned juice had become important, representing \$16,749,976 of total pineapple exports.

<sup>2</sup> A large peach crop (on the mainland) accompanied by a lowering in the price of canned peaches has an especially depressing effect on the pineapple market.

reasons as did the sugar industry. There were 13 companies with 11 canneries in 1929. Ten years later only nine companies with eight canneries totaled 33 percent greater production, measured in value. There is a considerable degree of coordination between the various companies by virtue of (1) intercorporate and intrafamily holdings; (2) interlocking directorates; and (3) close relations among the pineapple concerns and the five factors comprising the Hawaiian Sugar Planters' Association. In spite of these developments the pineapple industry has not achieved so high a degree of unity as has the sugar industry (1) because some of the important pineapple-producing concerns in Hawaii are branches of large packing companies on the mainland; (2) because the industry is younger and has not had time to achieve full coordination; and (3) because it has suffered from violent fluctuations in production and demand. The first organization of the pineapple-growing firms was established in 1909 as the Pineapple Growers' Association, primarily for the purposes of mainland advertising. This organization initiated scientific experimentation in the growth of pineapples in 1920 and further expanded it in 1922. The association passed through several reorganizations and emerged in 1932 as the Pineapple Producers' Cooperative Association. Under a cooperative arrangement the members agreed (1) to limit production under a quota system to the needs of the market; (2) to sell the pineapple pack through a marketing committee; (3) to pool their advertising; and (4) to standardize the pack. The agreement covered canned pineapple only and ended May 31, 1942.

The quota system was not continued following the termination of the cooperative agreement because production was curtailed and war demands were so great that the market would absorb all that could be produced. Government purchases of both canned pineapple and juice rose rapidly and in 1944 amounted to more than twice the total which remained for civilian consumption.

A dual organization replaced the cooperative association on February 29, 1944, as (1) the Pineapple Growers' Association of Hawaii (primarily for developing policies, handling advertising, and conducting marketing research); and (2) the Pineapple Research Institute of Hawaii (for research in new types of pineapples, insect and disease control, and mechanization). The institute and the various pineapple companies have spent as much as \$945,000 per year on research.<sup>3</sup>

The 8 member companies operate 12 plantations and 9 canneries as indicated in table 30.

TABLE 30.—Pineapple companies—Members of the Pineapple Growers' Association of Hawaii

Companies	Plan-tations	Can-neries	Companies	Plan-tations	Can-neries
Hawaiian Pineapple Co.....	2	1	Kauai Pineapple Co.....	1	11
Libby, McNeill & Libby.....	3	2	Baldwin Packers, Ltd.....	1	11
California Packing Corp.....	2	1	Hawaiian Canneries Co.....	1	21
Maui Pineapple Co.....	1	11	Hawaiian Fruit Packers, Ltd.....	1	1

<sup>1</sup> Associated with Alexander & Baldwin, Ltd.

<sup>2</sup> Associated with American Factors, Ltd.

<sup>3</sup> The association developed a high regard for the value of research in the early thirties when the pineapple wilt threatened the entire industry. It was saved from extinction only by intensive research on the part of the best experts that could be found.



The total area used for pineapple production (including roadways and camp sites but excluding ravines or other nonusable areas) amounts to 62,677 acres. Of this, 33 percent is owned by the companies and 60.9 percent is leased from various estates (including a small area leased from the Government). The remaining 6.1 percent represents pineapple production on homestead land and that of small independent growers.

TABLE 31.—*The market for canned pineapple and canned pineapple juice during the war years in number of cases*<sup>1</sup>

Calendar year	Canned pineapple			Canned juice		
	Total	Government <sup>2</sup>	Civilian	Total	Government <sup>2</sup>	Civilian
1942:						
Cases.....	9,027,805	3,132,559	5,895,246	6,148,604	1,635,551	4,513,053
Percent.....	100	34.70	65.30	100	26.60	73.40
1943:						
Cases.....	10,154,387	3,972,235	6,182,152	6,953,913	1,537,716	5,416,197
Percent.....	100	39.12	60.88	100	22.11	77.89
1944:						
Cases.....	8,704,955	5,851,090	2,853,865	5,804,979	4,304,336	1,500,643
Percent.....	100	67.22	32.78	100	74.15	25.85
1945:						
Cases.....	7,511,472	3,340,155	4,171,317	6,333,633	1,858,971	4,474,662
Canners repurchased <sup>3</sup>		617,658	617,658		569,167	569,167
Cases.....	7,511,472	2,722,497	4,788,975	6,333,633	1,289,804	5,043,829
Percent.....	100	36.24	63.76	100	20.36	79.64
Total:						
4 years.....	35,398,619	15,678,361	19,720,258	25,241,129	8,767,407	16,473,722
Percent.....	100	44.29	55.71	100	34.73	65.27

<sup>1</sup> The sizes of cans and cases vary. These figures are reduced to the equivalent of 24 cans (No. 2½ size) to a case.

<sup>2</sup> The Government purchases indicated in the above tabulation were made under the various set-aside orders. Previously, in 1941, the Army had purchased 625,749 cases (24 No. 2½ cans basis) of pineapple direct from canners on bids or by negotiation, in addition to sundry other Government purchases made prior to the first set-aside order in the spring of 1942.

<sup>3</sup> Out of the 1945 calendar year pack, the Government originally purchased the equivalent of 3,340,155 cases of pineapple and 1,858,971 cases of juice on a 24/2½ basis. This does not include a large number of contracts, which had been tendered by the canners and were in process of being negotiated when the Government terminated its purchasing program, which were therefore returned to the contractors uncompleted. Later, in November 1945, the Government declared surplus previously purchased lots in canners' island warehouses aggregating 674,007 actual cases of pineapple and 740,639 actual cases of juice. This was repurchased by the original canners in December 1945 and represented the equivalent of 617,658 cases of pineapple and 569,167 cases of juice on a 24/2½ basis.

NOTE.—During the pack year of June 1, 1945, to May 31, 1946, a total of 9,050,898 actual cases of canned pineapple and 8,671,204 cases of canned juice were produced.

TABLE 32.—*Shipments of canned pineapple and canned juice from Hawaii to the United States mainland for calendar years 1934-45*<sup>1</sup>

Year	Quantity pineapple	Quantity juice	Quantity total	Value pineapple	Value juice	Value total
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>			
1934.....	540,935,612	2,035,477	542,971,089	\$34,156,106	\$115,975	\$34,272,081
1935.....	436,800,865	103,529,320	540,330,185	28,239,449	5,647,112	33,886,561
1936.....	571,947,430	233,029,338	804,976,768	38,835,794	12,612,689	51,448,483
1937.....	595,790,000	283,849,733	879,639,733	42,705,000	16,749,976	59,454,976
1938.....	373,516,447	220,801,559	594,318,006	24,632,467	13,216,993	37,849,460
1939.....	536,327,235	311,676,574	848,003,809	34,098,779	16,723,754	50,822,533
1940.....	434,426,037	351,847,499	786,273,536	27,829,668	17,843,367	45,673,035
1941.....	648,525,912	396,505,682	1,045,031,594	42,051,697	21,255,675	63,307,372
1942 <sup>2</sup>	328,488,569	221,960,254	550,448,823	25,014,144	13,967,632	38,981,776
1943 <sup>2</sup>	248,848,467	209,571,542	458,420,009	24,351,548	15,554,330	39,905,878
1944 <sup>2</sup>	190,391,949	102,330,000	292,721,949	18,728,401	7,297,292	26,025,693
1945 <sup>2</sup>	143,762,433	162,133,331	305,895,764	14,369,453	12,566,041	26,935,494

<sup>1</sup> Monthly summary, U. S. Department of Commerce.

<sup>2</sup> Mainland shipments of both canned pineapple and juice were affected during the war years by the amount shipped to the armed forces (not included in these figures).

## CHAPTER 9. PRODUCTION IN THE PINEAPPLE INDUSTRY

### OPERATIONS ON PINEAPPLE PLANTATIONS

Pineapple production in Hawaii passes through a 4- to 5-year cycle. The first crop requires approximately 18 months to mature. The second and third crops grow on the already matured plant, hence require only about 12 months each to mature. The greater the number of such "ratoon" crops, the smaller the average size of the pineapples. Therefore, it is not considered advisable to attempt a fourth crop without replanting. On a typical field there is thus an 18-month period for the first crop, 12 months for the first "ratoon" crop and 12 months for the second "ratoon" crop, or 3½ years of continuous crop growth. This is sometimes followed by a year in which the land is allowed to lie fallow and recuperate<sup>1</sup> after which a new crop cycle is begun. Because of the lack of rainfall in recent years the island of Lanai is on a full 5-year cycle. On Oahu, Maui, and Kauai, however, the present tendency is to reduce the crop cycle to 4 years.

(1) *Preparation of the soil.*—Crawler tractors and heavy-duty plows similar to those used on the sugar plantations are used to prepare the soil. There recently has been a tendency toward contour farming and well over half of the total pineapple acreage is planted in contoured rows. Although a decided benefit in minimizing soil erosion, contour farming has reduced the efficiency of machinery in the fields and has considerably increased farming costs.

Tractor drivers and their helpers are the principal types of labor required for preparing the soil. After being plowed and harrowed the fields are laid out in rows 4 to 6 feet wide and well treated with fertilizer. Owing to the widespread appearance of nematodes and other root pathogens during recent years, it is now essential to fumigate the soil heavily before planting. Chloropicrin (a tear gas) is commonly used. An inexpensive byproduct of petroleum refining known as D. D. has proven effective in amounts of from 200 to 400 pounds per acre. In December 1946, a more effective method for using D. D. was developed. The D. D. is released from a tank and plowed into the soil when the fields are being prepared for planting. D. D. T. also has been used recently as an insecticide.

An important additional operation is the laying of asphalt-treated mulch paper in rows about 3 feet in width. This serves three purposes: It prevents the growth of weeds; it holds the moisture; and it attracts heat. Thus all of the fertilizer and the growing power of the soil is reserved for the fruit alone and the labor of hoeing and weeding is reduced.

(2) *Planting.*—A successful planting machine has not, as yet, been developed. After the paper is laid, holes are made through the paper and each planting material (slip, crown, or sucker) is set by hand in

<sup>1</sup> This was also designed to reduce soil infection. Newly developed soil fumigants make it possible to eliminate this waiting period and to use the land for continuous crop growth.

the amount of 17,000 to 20,000 plants per acre. There follows a long period of growth during which field work consists primarily of spraying.

(3) *Spraying*.—Spraying is used for five purposes: (1) To keep down insect pests, (2) to provide elements lacking in the soil, (3) to destroy weeds, (4) to retard or accelerate ripening, and (5) to force the "fruiting" and the size of the pineapples on weak "hold-over" plants. There is little iron in Hawaiian soil and this must be provided in the form of iron sulfate sprayed on the plants by large mechanical sprayers. Formerly, with straight-line farming, it was common to drive two trucks along parallel roads with a cable strung between them across the field on which was a long hose with nozzles for spraying sulfate. With the development of the contour system, this method is no longer feasible, hence a larger number of individual spray machines and drivers is required.

Spraying for insect control is an important factor in the cost of production. The greatest enemy to pineapple production is the mealybug, which attacks the roots. Diesel-oil emulsion spray is commonly used as an insecticide. Machine sprayers with booms of various lengths can be used to keep mealybugs away from the periphery but within the fields it is necessary to employ hand labor to eradicate these pests. Plants must be examined and, if infested, marked and sprayed by hand with small power sprayers. Experimentation looking toward the development of insect enemies of the mealybug has been unsuccessful so far because mealybugs are protected by the ants who cultivate them and destroy their enemies. A recently discovered Brazilian parasite (*pseudophycus*) can quickly deposit four eggs in each mealybug and escape before it is killed by the ants. The eggs produce larvae which destroy the mealybugs. The use of this parasite, however, is still in the experimental stage. If successful, it will reduce the cost of pineapple production by effecting a considerable reduction in the field force now required to combat insect pests.

The other pests and diseases which do not necessarily destroy the pineapple plant but may reduce the size of fruit by 50 percent or more are: (1) The anomala bug, (2) nematodes (microscopic eel-like worms which bore into the roots), and (3) a fungus disease known as root rot which thrives at cool, high elevations. Present experimentation in cross breeding strong South American wild pineapple with present Hawaiian types gives some promise of overcoming the fungus.

Spraying is used for weed control in spaces between the mulch paper. Herbicides are applied with small high-clearance tractors and fan-shaped sprays close to the ground to avoid contact with plants. Experts believe the use of cultivators for weed control to be undesirable because they tear the edges of the paper and cut the roots. Sprayers do not entirely eliminate the necessity for hand hoeing and weeding close to the plants.

Still another form of spraying is designed to control ripening. This method achieves two purposes: (1) It will cause the fruit to ripen earlier and thus spread the harvest season and prevent losses which occur when so much fruit ripens at the peak of the season that it cannot be handled, and (2) it forces the ripening when a drought causes weaker plants to "hold over" (i. e., fail to fruit) till the next season. Inspections early in the growing period will indicate whether

this operation is necessary. If applications are made early enough the plants that would otherwise hold over will fruit and the size will be normal. The use of fruit-ripening hormones (alphanathalenacetic and related hormones) not only shorten the ripening period if applied early but retard the ripening of fruit already formed if that is desired. Carbides injected with hand applicators also are used for "spot forcing" specific plants.

Most of the pineapple plantations are highly mechanized in respect to spraying operations, but a considerable amount of field work in the elimination of insect pests must be done by hand. Insect control costs the industry well over a half-million dollars a year.

(4) *Harvesting and transporting*.—Operations have been greatly simplified in the last few years by the development of various types of "field-fruit carriers." These consist of a boom (or long arm) which extends at right angles from the truck over several rows of pineapple plants. A conveyor belt runs along the boom and the field workers move slowly forward behind it picking the fruit, cutting the crown and placing the pineapples one at a time on the belt which carries them to the double-bin truck-trailer for transport to the cannery. This method has eliminated much of the heavy field work involved in harvesting.

Such machines are equipped with powerful electric lights so that, at the height of the season, it is possible to operate at night with an extra shift.

The secret of turning out the best canned pineapple is to obtain the fruit at the peak of ripeness. If it is either green or overripe the quality is impaired. The advantage of the field-fruit carrier is thus that it increases the rapidity of harvesting operations. The effect of these machines has been: (1) to increase man-hour production, (2) to reduce the number of laborers required, (3) largely to eliminate women and minors from field labor; and (4) to reduce losses at the seasonal peak.

#### OPERATIONS IN THE CANNERIES

The canneries are operated by the same concerns that control the pineapple plantations. It is necessary to maintain a close coordination between the day-by-day volume of harvested pineapples and the operating levels in the canneries. In contrast to the sugar industry, pineapple harvesting and canning tend toward sharp seasonal peaks. There is a major fruiting season in July, a minor fruiting season beginning in January, and limited, sporadic harvesting throughout the other months. Cannery operations thus continue at low levels during the off seasons, reach a small peak in midwinter and a high peak in midsummer. Seasonal workers are essential to the industry.

The three largest pineapple canneries (Hawaiian Pineapple Co., California Packing Corp., and Libby, McNeill & Libby) are located in Honolulu. They pack four-fifths of the total output. The five other canneries are located as follows: Baldwin Packers, Ltd., Lahaina, Maui; Maui Pineapple Co., Paia, Maui; Kauai Pineapple Co., Kalaheo, Kauai; Hawaiian Cannery Co., Kapaa, Kauai; and Hawaiian Fruit Packers, Ltd., Kapaa, Kauai. Libby, McNeill & Libby maintains a branch plant at Pauwela, Maui.

Canning operations begin on the receiving platform. Railroads are still used for transporting pineapple to some of the canneries, but the trend is strongly toward double-deck truck-trailers. Canning opera-

tions consist of: (1) unloading pineapples on conveyor belts; (2) peeling and coring (a single machine operation); (3) inspecting, trimming, and slicing; (4) packing into cans; (5) processing and sealing; and (6) labeling, warehousing, and shipping. In addition to these basic operations there are other types of work connected with the newly developed quick-freezing of slices, the recovery of juice and the processing of byproducts.

(1) *Unloading*.—In a number of the canneries truckers still move boxes of pineapple by hand-truck across the loading platform to the bins. Dumpers empty the fruit from the boxes into the bins and truckers return the empty boxes to the railroad cars or trucks to be sent back to the plantations. Pineapples are fed from the bins to a belt conveyor which carries them to the Ginaca machines.

A recent development is the large, double-deck truck trailer which is, in effect, a movable bin. This trailer is taken directly into the field where the fruit is fed by belt conveyors from the hands of the pineapple pickers into the truck-trailer. Upon arrival at the cannery the trailer is left in such a position that the pineapples can be mechanically dumped onto the belt conveyor whenever required. The double-deck arrangement is to prevent the fruit from being bruised by too great a weight of other pineapples being piled upon it. This system does away with hand trucking at the receiving platform. In the largest cannery in Hawaii over 95 percent of the loading platform workers were eliminated in this way. The belt conveyor carries the pineapples from the loading platform through a sorter which divides them according to size and carries them into the cannery where they are automatically fed into Ginaca machines of the proper size.

(2) *Peeling and coring*.—Peeling and coring are combined in a single operation performed by Ginaca machines which will handle as many as 90 pineapples per minute. The machines are electrically operated and are tended by a machine operator. The cylinder of fruit which remains automatically passes to the inspection and trimming tables. The cores and the peelings fall onto another conveyor to be processed into "pineapple bran" (cattle feed) and sirup.

(3) *Inspecting, trimming, and slicing*.—This work is performed by lines of girls wearing white aprons and white rubber gloves who stand beside trimming tables, take the cored cylinders of pineapples as they pass by on belt conveyors, inspect them, complete the trimming (if necessary), and return the fruit to the conveyors. Relief trimmers are available to fill in when it is necessary for an employee to drop out of line. As the fruit passes automatically from the trimming tables it goes through slicing machines where it is washed, cut into slices of uniform thickness, and delivered to belt conveyors for the canning tables. Foreladies are in charge of inspection, trimming, and can packing.

(4) *Packing into cans*.—This operation is also performed by girls who take the cylinders of sliced pineapple, make selections as to grade, and fill the cans. Slices that are imperfectly cut are picked out and passed to conveyors to be used as crushed pineapple.

(5) *Processing and sealing*.—The cans are fed by a conveyor belt into machines which place in each can a quantity of clarified pineapple juice (from the recovery plant of the cannery). The juice is thickened to a sirup by the addition of refined cane sugar.<sup>2</sup> Passing

<sup>2</sup> If present plans are successful the sirup will be made as a byproduct from the cores and peelings of the pineapples.

from the siruping machines, the cans are heated by live steam, air bubbles are expelled and the can covers automatically sealed upon them, after which the sealed cans pass through steam pressure cooking equipment with a temperature slightly above the boiling point. The cans are then given a lacquer bath to improve appearance and provide protection against rust. From there they go through the drying machine and the cooler, at the other side of which tray stackers pick up the trays of canned fruit and stack them. Truck operators with electric trucks take these stacks to cooling rooms where they are kept 24 hours or more for inspection for leaks, bulges or other imperfections.

(6) *Labeling, warehousing, and shipping.*—After the 24-hour period for cooling and inspection, the bare cans are taken from the tray and stacked in the warehouse. In filling orders, cans are taken from the stacks, again inspected, and placed on conveyor belts to be carried to automatic labeling machines. Labeling is inspected as the cans pass on a conveyor; then the cans are packed in corrugated boxes for shipment.

(7) *Other operations.*—Sliced pineapple is the primary product of the canneries, but crushed pineapple, pineapple juice, and frozen pineapple are becoming increasingly important. Crushed pineapple is canned in much the same way as sliced pineapple and consists of (1) fruit chosen for that purpose and (2) pieces of pineapple from the inspection and trimming tables. The fruit passes through crushing machines into kettles where it is cooked. The sterilized brew is then conveyed to automatic filling machines, and from this point the cans are handled in the same manner as sliced pineapple.

Juice is recovered from the cores and the peelings which are delivered by belt conveyors from the Ginaca machines to a roller mill. The pressed juice automatically passes to the recovery department where it is neutralized, filtered, concentrated, and treated with refined cane sugar to make sirup of the correct standard for use in filling cans of sliced pineapple. Juice is also canned as a beverage but contains less sugar than that which is added to canned pineapple.

Frozen fresh pineapple slices are packed in cardboard boxes of the standard size used for retailing frozen foods in grocery stores and are subjected to a quick-freezing process. This development is still in its infancy. If consumers should generally prefer the taste of frozen fresh pineapple to that of the cooked canned fruit, it will become an important development resulting in a reduction in the quantity of equipment and labor now required.

*Byproducts.*—The pressed peelings which remain after the extraction of juice are shredded, dried, and treated for use as stock feed. For each ton of canned fruit, 50 to 60 pounds of stock feed are obtained.

Citric acid, used in the manufacture of drugs, beverages, and food products, is another byproduct. The most recent development is a process for obtaining sugar by an ionization process from the cores and peelings. A pilot plant is in operation and has been so successful that larger installations are already being built. In this way the canneries will provide the sirup used in the manufacture of canned pineapple.

Working conditions in the canneries are good. Rooms are light and airy. Rest rooms, toilet facilities, restaurants, protective devices, and medical care compare favorably with mainland standards. This over-all review of cannery operation has been presented in some detail to indicate the character of the work performed by the largest group of factory workers in Hawaii.

## CHAPTER 10. UNIONIZATION

### *Unionization of the pineapple industry*

The unionization of the pineapple industry is in many respects similar to the development of union organization in the sugar industry. In each of these industries, the organizing drive conducted by the International Longshoremen's and Warehousemen's Union was highly successful and resulted in written agreements covering the majority of the regularly employed persons in the labor force. Negotiations in both industries involved (1) conversion from the perquisite system, (2) the adoption of a uniform job classification system and a standard wage scale, (3) special wage scales in the case of a few companies, and (4) the granting of a general wage increase. These major changes were brought about in the pineapple industry with the signing of the first agreement with the union, whereas similar changes were introduced in the sugar industry some months later, on the effective date of the second contract.

Prior to World War II, the United Cannery, Agricultural, Packing, and Allied Workers of America had obtained a single agreement in the industry with one of the smaller companies (operating on the island of Kauai) which signed with the union in June 1940. Between October 1944 and September 1945 the ILWU filed petitions for representation of factory workers employed by the other seven companies with the National Labor Relations Board. In all cases involving the basic bargaining units in canneries the union won the elections and was certified as collective-bargaining representatives. Elections were held under the Hawaii Employment Relations Act for the pineapple plantation workers and the ILWU was also certified as representative for these workers. Separate industry-wide contracts were negotiated for cannery workers and for plantation workers, with major agreements going into effect on May 31, 1946. All of the canneries (9) and 11 of the 12 plantations were operating under terms of written agreements with the ILWU by August 1, 1946.

Although office workers, guards, and supervisory employees were generally excluded from the basic bargaining units, a number of elections covering such occupational groups were held later and nearly all of such elections were won by the union. In some cases where office and clerical employees were added to the groups covered by the contract, supervisory, professional, technical, and confidential employees engaged in office positions were typically excluded from such coverage. Similarly, where supervisory positions were brought within the scope of the contract, these were generally limited to employees in the first level of supervision, such as table foreladies and "lunas."

Large numbers of workers are employed on a short-term basis on the plantations and in the canneries during the peak harvesting period. Such workers were specifically excluded from coverage by the agreement. The agreement covering plantation workers excluded students, seasonal employees and part-time employees. The cannery agreement stated that intermittent employees covered will be those

who have worked through the peak season and thereafter for 75 percent of the canning days each month between seasons; if an employee does not work 75 percent of the canning days in any month between seasons, he shall be excluded from coverage of the contract until after the next peak season when the same tests will again apply to determine coverage.

An industry-wide job classification system, covering plantation jobs as well as factory jobs, went into effect on May 1, 1946. All employees covered by the union agreement whose services had not been terminated prior to the signing of the agreement received a minimum increase, as of May 1, 1946, of 10 cents per hour, irrespective of the placement of their jobs under the classification system.<sup>1</sup> The minimum guaranteed increase primarily affected employees whose personalized rates were at a level that would have otherwise called for little or no upward adjustment with the adoption of the job classification plan. According to the agreement, each employer had the option on or before January 1, 1947, of discontinuing the provision of any perquisites upon making arrangements for the continued availability of service. Upon the discontinuance of perquisites, employees would be charged for rent in accordance with an agreed-upon schedule and the employer would put into effect an increase of 15 cents per hour for men and 10 cents per hour for women employees receiving full perquisites. Employees receiving partial perquisites would receive a pro rata share of the perquisite payment, but in no case would receive less than the appropriate classification rate. By November 1, 1946, all of the pineapple companies had exercised the option to eliminate perquisites.

TABLE 33.—Pineapple plantation wage schedules

Labor grade	Oahu, Maui, Lanai, and Molokai		Kauai	
	Men	Women	Men	Women
I.....	\$0.80	\$0.70	\$0.75	\$0.65
II.....	.85	.75	.80	.70
III.....	.905	.805	.855	.755
IV.....	.965	.865	.915	.815
V.....	1.035	.935	.985	.885
VI.....	1.105	1.005	1.055	.955
VII.....	1.185	1.085	1.135	1.035
VIII.....	1.275	-----	1.225	-----
IX.....	1.38	-----	1.33	-----
X.....	1.48	-----	1.43	-----
XI.....	1.60	-----	1.55	-----
XII.....	-----	-----	1.675	-----

The schedules of rates established for pineapple canneries are identical with plantation scales, with an additional rate of \$1.725 applying to jobs in labor grade XII in canneries located on Oahu and Maui.<sup>2</sup> Wage rates on the island of Kauai were set 5 cents below the schedule prevailing on the other islands. Lower rates, amounting to a 10-cent differential, were also established in each labor grade for women workers. The lack of employment opportunity for women in the more highly skilled jobs is indicated by the fact that the wage

<sup>1</sup> The employees also received retroactive payments at the rate of 10 cents per straight-time hour for all hours worked during the period between January 1, 1946, and May 1, 1946.

<sup>2</sup> Canneries are located on 3 islands only: 3 each on Oahu, Maui, and Kauai.



schedule provides rates for the first seven labor grades only in the case of women employees, whereas five additional grades have been set up to cover jobs held by men.

The full range of rates shown in the composite schedule adopted by the pineapple industry is not necessarily to be found on each plantation and in each cannery. Differences in degree of mechanization, organization of work, and types of services provided account, for the most part, for interestablishment differences in the composition of the labor force. Thus, while all companies employ workers in the lower labor grades, job representation in the highest grades, for men as well as women, may be missing in some of the operations. Examples of the placement of plantation jobs in the classification system are provided below:

- |   |   |
|---|---|
| <p><b>Grade I:</b><br/>                 Dispensary attendant.<br/>                 Planting material carrier.<br/>                 Weeder.</p> <p><b>Grade II:</b><br/>                 Fruit harvester.<br/>                 Plant sprayer.<br/>                 Trade helper.</p> <p><b>Grade III:</b><br/>                 Fruit loader.<br/>                 Planter.<br/>                 Light-truck operator.</p> <p><b>Grade IV:</b><br/>                 Butcher.<br/>                 Tractor operator, second class.</p> <p><b>Grade V:</b><br/>                 Heavy-truck driver.<br/>                 Tractor operator, first class.</p> | <p><b>Grade VI:</b><br/>                 Earth-moving-equipment operator.<br/>                 Painter, second class.</p> <p><b>Grade VII:</b><br/>                 Automotive-equipment operator, second class.<br/>                 Carpenter, second class.</p> <p><b>Grade VIII:</b><br/>                 Automotive-equipment operator, first class.<br/>                 Carpenter, first class.</p> <p><b>Grade IX:</b><br/>                 Welder-blacksmith, first class.</p> <p><b>Grade X:</b><br/>                 Machinist, first class.</p> |
|---|---|

A listing, by labor grade, of a few of the jobs considered to be common to all or most of the pineapple-canning plants, is shown below. In contrast to their position on plantations, large numbers of women are employed in the canneries and their typical jobs have, therefore, been listed separately:

Grade	Men	Women
I.....	Janitor.....	Case packer, labeling.
	Tray boy.....	Ginaca operator-picker.
II.....	Ginaca feeder.....	Inspector, packing.
	Trucker, hand.....	Trimmer.
III.....	Guard.....	Label-machine operator.
	Small-truck operator.....	Temperature regulator (cooker).
IV.....	Lift-truck operator.....	Forelady.
	Head checker, shipping.....	
V.....	Carrier operator.....	
VI.....	Plant mechanic, second class.....	
VII.....	Carpenter, second class.....	
	Plant mechanic, first class.....	
VIII.....	Auto mechanic, first class.....	
	Carpenter, first class.....	
IX.....	Electrician, second class.....	
	Machinist, second class.....	
X.....	Electrician, first class.....	
	Machinist, first class.....	

The classification examples shown for plantation as well as cannery jobs were drawn from a more complete listing used by one of the larger companies. It should be recognized that some jobs may differ sufficiently from plant to plant to justify a different placement in the labor grade scale.

Wage negotiations between the unions and the management of the pineapple industry were reopened by the unions at the height of the coming season in July 1947. Failure to reach an agreement resulted in a strike which began July 11 and ended July 16, 1947.<sup>3</sup> The strike was settled by an agreement for an increase of 10 cents per hour "across the board" in the minimum wage for each labor grade. It was also agreed that the wage differential between Kauai and the other islands would be eliminated. Since the wage tables in the following chapter were derived from data obtained in the early part of 1947, allowance should be made for this change in basic wage rates in interpreting these data.

<sup>3</sup> The strike involved 18,510 employees. The Hawaii Employers Council estimated that 71,300 man-days and \$480,000 in wages were lost.

## CHAPTER 11. EARNINGS

### THE PLANTATION WAGE STRUCTURE IN 1947

A survey of hours and earnings of workers employed on pineapple plantations was made in the early part of 1947. Four of the twelve plantations in Hawaii were included in the sample, with consideration given in the selection process to such factors as management, location, wage schedule, unionization, and number of workers employed. Accounting, as a group, for one-third of the labor force engaged in this branch of the industry, the sample included one plantation each on Oahu, Maui, Kauai, and Molokai.

The period selected for study (February) represents a secondary seasonal peak in the industry. Data relating to a 4-week pay roll period (5-week period on one plantation) were obtained for all employees other than those employed in managerial, supervisory, and professional positions.<sup>1</sup> Although minors (under 18) were included in the study, few were found to be employed in February 1947 and their employment and earnings position is, therefore, presented separately in the report (p. 89). Earnings data relating to plantation office workers were grouped with data for other industries and appear in a chapter devoted to office workers (ch. 19).

That opportunity for employment on pineapple plantations is limited almost entirely to men is suggested by the fact that only 115 of the 1,745 adult workers employed on the 4 plantations included in the study were women. Classified for the most part as laborers, women averaged 15 cents an hour less than men in February 1947. The straight-time average hourly earnings of all women combined amounted to 74 cents, as compared with an 89-cent average rate recorded for men. Individual wage rates were concentrated at the bottom of the wage scale (as set forth in the union agreement), reflecting the heavy concentration of employment in jobs classified in the first two labor grades. As reported earlier, rates of 80 cents for labor, grade I, and 85 cents for labor, grade II, were established for men workers on the islands of Oahu, Maui, Kauai, and Molokai and a lower scale was agreed upon for plantations on Kauai. As shown in table 34, approximately two-thirds of the men were distributed in an earnings range applicable to these labor grades. Similarly, the wage scale for women provided a rate of 70 cents an hour for jobs in labor, grade I, and a 75-cent rate for jobs in labor, grade II, with lower rates maintained on Kauai. It can be seen that seven-eighths of the women earned less than 77.5 cents. Because of the lower rates paid on plantations located on Kauai, and variations in earnings to be found within individual labor grades, exact proportions employed in each of the labor grades cannot be determined from the table.

<sup>1</sup> Employees in the following positions were specifically excluded: Manager and assistant manager; heads of shops and industrial departments; office manager; cost accountant; head timekeeper; doctor; personnel officer; supervisory employees other than in first level of supervision. Adjustments were made in the tabulation process for variations in length of pay period.

Nearly all of the employees included in the study were paid on an hourly rate basis. Only 26 persons, all men, were salaried employees and most of these were gang "lunas." Contract work (piecework) was found on only 1 of the 4 plantations and most of the group of 28 workers employed on this basis were classified as general laborers.

It was found that Filipinos, as a group, accounted for an even larger proportion of the work force on pineapple plantations than they did on sugar plantations. In February 1947, nearly three-fourths of the adult men employed on pineapple plantations were Filipinos, while the proportion in the sugar industry was one-half. As shown in table 35, Japanese held second position, numerically, among men workers but greatly outnumbered all other racial groups among women workers. The comparatively small number of Filipino women employed on plantations is explained by the fact that the great majority of the Filipino immigrants were single men.

The average hourly earnings of Filipino men, which were 10 cents an hour lower than the average earnings in the Japanese and Caucasian groups, and 5 cents less than the average wage rates obtained by Hawaiian workers, reflect a shorter average period of service by Filipinos in plantation work. Individual Filipinos, however, were found to be among the highest paid workers on the plantations. Of the 246 men employees who earned \$1 or more an hour, for example, 113 were Filipinos.

Work performed in excess of 8 hours in any one day (except when changing shifts) or in excess of 48 hours per week was paid for at time and one-half rates. By the terms of the union agreement, this rate also applied to work performed on 9 holidays, with the provision that if any of these holidays should fall on Sunday, the following Monday would be considered as the holiday for overtime purposes.

TABLE 34.—Percentage distribution of workers<sup>1</sup> on Hawaiian pineapple plantations by straight-time average hourly earnings<sup>2</sup> and sex—February 1947

Average hourly earnings <sup>2</sup>	All workers	Men	Women	Average hourly earnings <sup>2</sup>	All workers	Men	Women
65.0 to 67.4 cents.....	1.3	-----	20.0	110.0 to 114.9 cents.....	1.3	1.4	-----
67.5 to 69.9 cents.....	-----	-----	-----	115.0 to 119.9 cents.....	1.6	1.7	.9
70.0 to 72.4 cents.....	3.3	0.3	46.0	120.0 to 124.9 cents.....	.3	.3	.9
72.5 to 74.9 cents.....	1.0	.1	13.0	125.0 to 129.9 cents.....	1.2	1.3	-----
75.0 to 77.4 cents.....	5.7	5.5	9.6	130.0 to 134.9 cents.....	.6	.7	-----
77.5 to 79.9 cents.....	1.1	.9	3.5	135.0 cents and over.....	1.0	1.1	-----
80.0 to 84.9 cents.....	43.1	45.9	.9	Total.....	100.0	100.0	100.0
85.0 to 89.9 cents.....	12.6	13.4	-----	Total number of workers.	1,745	1,630	115
90.0 to 94.9 cents.....	10.0	10.6	2.6	Average hourly earnings <sup>2</sup>	\$0.88	\$0.89	\$0.74
95.0 to 99.9 cents.....	7.6	8.1	-----				
100.0 to 104.9 cents.....	6.4	6.7	1.7				
105.0 to 109.9 cents.....	1.9	2.0	.9				

<sup>1</sup> Excludes office workers and minors.

<sup>2</sup> Excludes premium pay for overtime and night work.

Overtime worked during the selected pay-roll period had the effect of increasing average earnings of all workers combined by 2 cents an hour. Approximately two-thirds of the men employees worked overtime, and the aggregate extra earnings were sufficient to bring the gross average of all men workers to 91 cents an hour, as compared with straight-time average hourly earnings of 89 cents. Although one-third of the women employees worked some overtime during the period, the extra overtime earnings, in the aggregate, were so insignifi-

cant that the gross average hourly earnings of all women workers combined were identical with the straight-time hourly average of 74 cents recorded for them.

TABLE 35.—*Straight-time average hourly earnings<sup>1</sup> of workers<sup>2</sup> on Hawaiian pineapple plantations by racial group and sex, February 1947*

Racial group	Men		Women	
	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers	Average hourly earnings <sup>1</sup>
All races.....	1,630	\$0.89	115	\$0.74
Filipinos.....	1,205	.87	15	(?)
Japanese.....	314	.97	88	.74
Caucasians.....	46	.97	2	(?)
Hawaiians and part Hawaiians.....	30	.92	5	(?)
All others.....	35	.84	5	(?)

<sup>1</sup> Excludes premium pay for overtime and night work

<sup>2</sup> Excludes office workers and minors.

<sup>3</sup> Insufficient number of workers to justify presentation of an average.

### *Employment and earnings of minors*

Less than 2 percent of the workers on pineapple plantations during February 1947 were minors (under 18). A total of 23 boys and 6 girls were employed on four plantations included in the study. Of the 29 minors, 3 boys and 1 girl were in the 14-15 age bracket and the remainder were 16- and 17-year olds. The boys as a group averaged 68 cents an hour with individual earnings ranging from 50 cents to 92.5 cents an hour. The group average for the girls also amounted to 68 cents and individual rates ranged from 50 cents to a high of 86.5 cents an hour. Hours worked by minors were found to be less, on the average, than those recorded for adult workers on the plantations. None of the employees under 18 years of age worked overtime during the pay-roll period studied. Although most of the minors were classified as laborers several were employed as tractor operators and in clerical positions.

### *Annual earnings*

All of the pineapple plantations had converted from the perquisite system to a cash basis by October 1, 1946. As indicated earlier, the union agreement provided that, coincident with the change-over to the basis whereby employees would be charged for rent, wage rates would be increased to compensate for the loss to the employees. The agreed-upon increase amounted to 15 cents an hour for men and 10 cents an hour for women employees receiving full perquisites, with workers receiving partial perquisites getting a pro rata share of the adjustment.

The study included a measurement of hours worked and earnings of individual workers during the calendar year 1946. The earnings data presented in the report are limited to cash earnings as recorded in pay roll records, exclusive of the value of perquisites provided on the plantations during the major part of 1946. Annual hours and earnings data were obtained only for employees who were included in the study of hourly earnings during February 1947 and who, in addition, were carried on the plantation pay roll during the entire 1946 year. Employees who worked during 1946 but were no longer on the

payroll in February 1947 were not covered. Of the 1,745 employees reported in the discussion of hourly earnings 1,056 or about 60 percent were employed throughout the previous year and were included in this phase of the study. It should be pointed out that all of these workers, although on the pay roll throughout the year, did not work regularly during this period.

The average cash earnings of the 1,056 workers included in the study amounted to \$1,929 in 1946. Accounting for 95 percent of total employment, men averaged \$1,954 during the year, \$480 more than the earnings averaged by women. Due to the variation in the total number of hours worked by individual employees during 1946, the distribution of workers by annual earnings, presented in table 36 shows a greater amount of dispersion than was found in the distribution of workers by hourly rates. Only 294 of the 1,001 men included in the study worked with enough regularity in 1946 to total 2,400 or more work hours. The average cash earnings for this group of men amounted to \$2,619 or \$693 more than the average earnings of 410 men whose annual work hours fell in the hours range 2,000-2,399. It was noted that a larger proportion of the higher paid employees worked regularly throughout the year than was the case with employees whose wage rates were at or near the bottom of the wage scale.

TABLE 36.—Percentage distribution of all workers<sup>1</sup> on Hawaiian pineapple plantations by annual earnings, annual hours and sex, 1946

Annual earnings	All workers	Men					Women, all workers
		Total	Under 1,600 hours	1,600 to 1,999 hours	2,000 to 2,399 hours	2,400 to hours and over	
Under \$800.....	2.0	2.0	18.0				1.8
\$800 to \$999.....	2.2	2.3	20.7				
\$1,000 to \$1,199.....	4.8	4.5	37.9	1.6			10.9
\$1,200 to \$1,399.....	8.0	7.1	14.4	28.5	0.5		25.5
\$1,400 to \$1,599.....	14.5	13.1	4.5	39.3	12.9		40.0
\$1,600 to \$1,799.....	14.5	14.8	1.8	16.7	27.3	1.4	7.3
\$1,800 to \$1,999.....	14.2	14.4		10.2	26.6	5.4	10.9
\$2,000 to \$2,199.....	9.3	9.6		2.7	15.6	9.2	3.6
\$2,200 to \$2,399.....	6.5	6.9	1.8		7.6	12.2	
\$2,400 to \$2,599.....	7.5	7.9	.9	.5	4.9	19.4	
\$2,600 to \$2,799.....	7.2	7.6		.5	1.7	23.1	
\$2,800 to \$2,999.....	4.9	5.2			1.2	16.0	
\$3,000 and over.....	4.4	4.6			1.7	13.3	
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of workers.....	1,056	1,001	111	186	410	294	55
Average annual earnings.....	\$1,929	\$1,954	\$1,011	\$1,528	\$1,926	\$2,619	\$1,474

<sup>1</sup> Excludes office workers and minors.

### Vacation policy

Paid vacations were provided by contract to all employees who qualified on the basis of having worked with their present employer for a continuous period of 1 year and had worked at least 2,100 straight-time hours during that period. Qualified employees with 1 year of service received 1 week with pay and those with 2 years or more of service received 2 weeks of vacation leave, such vacation credit not being cumulative from year to year. Vacation pay was computed on the basis of 48 hours per week at the employee's straight-time rate.

Employees received credit toward a vacation for time lost on a schedule workday for the following: Compensable industrial accidents,

illness up to a maximum of 12 working days when excused by the company, authorized vacation days, and days when employee was available for work but no work was offered because of weather conditions.

#### EARNINGS OF CANNERY WORKERS IN 1947

The study of hours and earnings of pineapple cannery employees is based on data received from five companies. Although only five of the nine canneries in the Territory were included in the sample, approximately 80 percent of the employment in the industry is concentrated in this group of plants. Proper representation of the major factors to be considered was, however, obtained within this group. Each of the three islands (Oahu, Kauai, Maui) on which canning operations are carried on is represented in the coverage.

Employment in the industry reaches a high for the year in the peak canning season during June, July, and August. Time limitations however, necessitated the selection of an earlier period for study. February (1947), the month selected for study, represents a secondary seasonal peak in the industry. The canning lines in most of the factories were operating on a 3-day-a-week basis during the month. Because of the day-to-day fluctuations in the numbers of workers required in the canneries, personnel and pay-roll practice in the industry group the employees into two categories, namely, regular and intermittent. The need for maintaining an efficient operating staff of key workers in the various departments is especially marked in an industry that must rely on large numbers of students and housewives, many of whom lack previous factory work experience, for the major part of the work force during the peak season. It was noted that the regular employees are provided with work throughout the week even in those periods when actual canning operations are scheduled on an intermittent basis. In conducting the study, data were obtained on a basis permitting a separate examination of the earnings structure in these two groups. As in the other industries studied, employees in managerial, supervisory (other than first level of supervision) and professional positions were excluded from the survey. Office workers and minors have been excluded from the tables relating to pineapple-canning establishments. The employment and earnings of minors employed in canneries are discussed separately in this report. Earnings data relating to cannery office employees are presented in a separate chapter devoted to office workers in the Territory of Hawaii (ch. 19).

The adult labor force (exclusive of office employees) in the 5 canneries included 1,582 men and 1,082 women in February 1947. Of the total of 2,664, 442 men and 904 women were carried in the intermittent-employee status. Only 16 percent of the women, as compared with 72 percent of the men, were classified as regular employees. The explanation for this difference in employment status between the sexes lies in the nature of the jobs held by men and women in the industry. The field of work in which most of the women were engaged covers the processing of the fruit, packing it into cans, and such supplementary operations as labeling and case packing. The great majority of the women are thus employed only on days when canning operations are scheduled. While men are employed to some extent in jobs that provide work only on canning days, large numbers of them are engaged in maintenance and custodial work, warehousing, and other indirect

activities that are carried on throughout the workweek. In the typical pineapple cannery, the maintenance of buildings and the wide variety of mechanical equipment used, including processing machinery, conveyor lines, industrial trucks and automotive equipment, require a staff of trained specialists and helpers, and a program of training new workers in the maintenance trades. The greater opportunity that men have for employment in (or advancement to) the more highly paid jobs found in canneries is to be seen in data relating to earnings of workers in the industry.

Average straight-time hourly earnings of all workers combined amounted to 94 cents an hour in February 1947. As shown in table 37, men averaged \$1.01 an hour on a straight-time basis, whereas the average earnings of all women combined amounted to 77 cents an hour. While a part of the 24-cent difference in average hourly earnings can be accounted for by the lower wage schedule established for women (rate for women 10 cents below men's rate in each labor grade), most of the difference in earnings of men and women simply reflects the fact that comparatively few women are employed in jobs classified in the high labor grades. The earlier presentation of the job-classification plan and wage schedule showed that 7 labor grades were provided for women as compared with a total of 12 grades for men. That little representation is to be found in the top 2 or 3 grades established for each sex is suggested by the grade classification in which typical maintenance jobs and working supervisory positions are listed. First-class electricians and machinists, for example, are classified in labor grade 10 in the men's scale, and foreladies are grouped in labor grade 4 in the seven-grade scale used for women.

TABLE 37.—Percentage distribution of workers<sup>1</sup> in Hawaiian pineapple canneries by straight-time average hourly earnings,<sup>2</sup> sex and employment status, February 1947

Average hourly earnings <sup>3</sup>	All workers			Men			Women		
	Total	Regular workers	Intermittent workers	Total	Regular workers	Intermittent workers	Total	Regular workers	Intermittent workers
Under 65.0 cents	0.2	0.4	7.4	0.3	0.4				
65.0 to 67.4 cents	3.7		.7				9.1		11.0
67.5 to 69.9 cents	.4	.1	.7	.1	.1		.8		1.0
70.0 to 72.4 cents	18.1	1.4	34.5	.1	.1		44.7	9.6	51.6
72.5 to 74.9 cents	.7	.5	.8	.1	.1		1.6	3.4	1.2
75.0 to 77.4 cents	10.7	3.8	17.5	1.1	1.5		24.8	18.4	26.0
77.5 to 79.9 cents	.8	.9	.6	.4	.4	0.5	1.2	3.9	.7
80.0 to 84.9 cents	11.7	8.3	15.0	16.2	7.7	38.4	5.0	12.4	3.5
85.0 to 89.9 cents	16.0	16.7	15.5	22.0	15.8	38.2	7.3	22.4	4.3
90.0 to 94.9 cents	8.1	10.7	5.6	12.1	10.3	17.0	2.3	13.5	.1
95.0 to 99.9 cents	4.4	8.3	.6	6.9	8.9	1.8	.7	4.5	
100.0 to 104.9 cents	2.0	3.4	.5	2.7	3.4	.9	.8	3.4	.3
105.0 to 109.9 cents	1.7	3.4	.1	2.6	3.5	.2	.5	2.8	
110.0 to 114.9 cents	8.3	16.3	.4	13.7	18.6	.9	.4	1.7	.1
115.0 to 119.9 cents	5.1	9.9	.4	8.1	11.0	.7	.7	3.4	.2
120.0 to 124.9 cents	1.2	2.4		1.9	2.6		.1	.6	
125.0 to 129.9 cents	2.3	4.4	.1	3.8	5.1	.5			
130.0 to 134.9 cents	.8	1.7		1.4	1.9				
135.0 to 139.9 cents	1.0	2.0		1.7	2.4				
140.0 to 144.9 cents	.2	.5		.4	.5				
145.0 to 149.9 cents	1.0	1.7	.3	1.7	2.0	.9			
150.0 cents and over	1.6	3.2		2.7	3.7				
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total number of workers	2,664	1,318	1,346	1,582	1,140	442	1,082	178	904
Average hourly earnings <sup>2</sup>	\$0.94	\$1.03	\$0.79	\$1.01	\$1.05	\$0.86	\$0.77	\$0.85	\$0.73

<sup>1</sup> Excludes office workers and minors.

<sup>2</sup> Excludes premium pay for overtime and night work.



The great majority of men and women classified as intermittent employees were engaged in work that could be performed satisfactorily after a short period of training. As would be expected, therefore, the average earnings in this group were substantially below the average earnings of regular workers. Among men workers the difference in earnings between regular and intermittent employees amounted to 19 cents an hour with an hourly average of \$1.05 recorded for regular workers and 86 cents an hour averaged by the intermittent group. Women in the regular employee status averaged 85 cents an hour as a group, or 12 cents an hour more than the group average for women intermittent employees. A few men were found to be earning less than the lowest rate paid in jobs classified in grade I (75 cents on Kauai). These workers were employed as apprentices in the maintenance departments. With the exception of a few salaried workers, all of the employees included in the study were paid on an hourly rate basis.

A summary of employment in the canneries by racial group, presented in table 38, reveals that 53 percent of the men and 62 percent of the women employees were Japanese. An even more dominant position, insofar as employment is concerned, was held by the Japanese in the group of workers with regular employment status. In this group, 61 percent of the men and 71 percent of the women were Japanese. Filipinos constitute the second largest racial group in the industry, but the majority of them were employed on an intermittent basis. Among both men and women workers, and in each employment-status group, Filipinos averaged the lowest earnings per hour. The greatest racial differences in average wage rates were noted among men regular workers. In this group Filipinos averaged 96 cents an hour, while the averages for the other racial groups tabulated separately were as follows: Chinese, \$1.03; Japanese, \$1.06; Hawaiians and part Hawaiians, \$1.13; and Caucasians, \$1.19 an hour. These differences in earnings by racial group reflect differences in the racial composition of the work force engaged in the various types of work activity in and about the canneries. Comparatively few Filipinos were found to be employed in the skilled maintenance trades, for example, which illustrates the differences in skills brought to (or acquired in) the industry by individual workers.

TABLE 38.—*Straight-time average hourly earnings<sup>1</sup> of workers<sup>2</sup> in Hawaiian pineapple canneries by racial group, sex, and employment status, February 1947*

Racial group	Men					Women				
	Total	Regular workers		Intermittent workers		Total	Regular workers		Intermittent workers	
		Number of workers	Average hourly earnings <sup>1</sup>	Number of workers	Average hourly earnings <sup>1</sup>		Number of workers	Average hourly earnings <sup>1</sup>	Number of workers	Average hourly earnings <sup>1</sup>
All races.....	1,582	1,140	\$1.05	442	\$0.86	1,082	178	\$0.85	904	\$0.73
Japanese.....	837	694	1.06	143	.86	668	127	.84	541	.73
Filipinos.....	426	209	.96	217	.85	48	2	( <sup>3</sup> )	46	.71
Caucasians.....	105	79	1.19	26	.94	62	6	( <sup>3</sup> )	56	.74
Chinese.....	63	49	1.03	14	.88	110	17	.89	93	.74
Hawaiians and part Hawaiians.....	50	37	1.13	13	.88	63	6	( <sup>3</sup> )	57	.75
All others.....	101	72	1.10	29	.87	131	20	.86	111	.75

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> Excludes office workers and minors.

<sup>3</sup> Insufficient number of workers to justify presentation of an average.

Time and one-half was paid for work in excess of 8 hours per day (except when changing shifts) or in excess of 40 hours per week.<sup>2</sup> The overtime rate also applied to work performed on nine holidays, with the added provision that if any of the holidays fell on Sunday, the following Monday would be considered as the holiday for purposes of determining the rate of pay.

The effect of this overtime policy on earnings in the industry is indicated in table 39. Although the employees averaged only 32.4 hours of work per week during the pay-roll period covered, a sufficient amount of time was worked at overtime rates to bring the gross average hourly earnings to 97 cents, or 3 cents above the average straight-time rates prevailing in the industry. As would be expected, most of the overtime was worked by regular employees. It will be noted, however, that workers in the intermittent employee category, averaging only 23 hours of work per week, were also paid overtime rates for a part of these hours. While a few of the intermittent employees did work more than 48 hours a week, it was found that most of the overtime paid within the group was earned by employees working only 2 or 3 days a week, who had opportunity to work more than 8 hours per day.

TABLE 39.—Average hourly earnings, average weekly hours, and average gross weekly earnings of workers<sup>1</sup> in Hawaiian pineapple canneries, by sex and employment status, February 1947

Sex and employment status	Number of workers	Average straight-time hourly earnings	Average gross hourly earnings	Average weekly hours	Average gross weekly earnings
<b>All workers:</b>					
Total.....	2,664	\$0.94	\$0.97	32.4	\$31.39
Regular.....	1,318	1.03	1.06	42.0	44.60
Intermittent.....	1,346	.79	.80	23.0	18.46
<b>Men:</b>					
Total.....	1,582	1.01	1.04	39.3	41.01
Regular.....	1,140	1.05	1.09	42.5	46.33
Intermittent.....	442	.86	.88	30.9	27.27
<b>Women:</b>					
Total.....	1,082	.77	.77	22.4	17.34
Regular.....	178	.85	.86	38.8	33.49
Intermittent.....	904	.73	.74	19.2	14.16

<sup>1</sup> Excludes office workers and minors.

Women averaged fewer hours of work per week than did men and worked a negligible number of hours at overtime rates. These differences in total hours worked and hours worked at overtime rates are reflected in correspondingly lower earnings for women. In the regular employee group, for example, average straight-time hourly earnings of men exceeded the average hourly rate of women by 24 percent, whereas average gross weekly earnings of men were 38 percent higher than the average recorded for women. An even greater difference is indicated in the case of intermittent workers; the wage advantage held by men amounted to 18 percent on the basis of average straight-time rates and 93 percent in weekly earnings.

<sup>2</sup> The Fair Labor Standards Act provides for a period of 14 exempt weeks in the industry. The industry-wide agreement with the ILWU states that this exempt period will be taken in 14 consecutive weeks and, during this period, overtime rates are to be paid for time worked in excess of 8 hours per day or 44 hours per week.

*Employment and earnings of minors*

A total of 153 minors were employed in February 1947 in the canneries included in the study. Accounting for 5 percent of the total employment (exclusive of office workers), the group of minors included 104 boys and 49 girls, all in the 16-17 age group. The boys, as a group, averaged 83 cents an hour on a straight-time basis, with individual rates ranging from 75 cents to as high as 97 cents an hour. The group average for the girls amounted to 70 cents an hour, with the great majority paid at that rate. Boys were employed principally as tray boys, bin boys, and feeders on the Ginaca machines, while the majority of the girls were found working as trimmers, packers, and labelers. Most of the employees under 18 years of age were classified as intermittent employees and worked less than a full workweek during the period studied. Despite the fact that 77 of the 104 boys and all except 1 of the 49 girls worked less than 40 hours during the workweek, about one-half of the boys and one-fourth of the girls were paid for part of their time at overtime rates. Gross average hourly earnings, as in the case of the adult workers, were slightly above the straight-time averages.

*Annual earnings*

Total employment in pineapple canneries is subject to much wider fluctuation during the course of a year than is the case on sugar plantations or in any other important industry in Hawaii. If a study of annual earnings in the industry included all of the workers who were employed in cannery work during any part of the year under study, it would be found that the great majority of these workers were employed only during the peak canning season that occurs in June, July, and August. Great numbers of students, for example, seek employment in the canneries during the school-recess period. In addition, many others, mainly housewives, enter the labor market during the peak season and their cannery earnings may represent their total income for the year.

In the present study, the measurement of annual earnings was limited to workers, in either the regular or intermittent employment status, who were on the pay roll during the entire 1946 year. This phase of the general study was further limited to employees who were included in the study of hourly earnings in the February 1947 period. Because of the variations in work opportunity offered to intermittent employees, total hours worked by individual workers in this category were also obtained and earnings data are presented by annual-hours groups.

Of the 1,140 men and 178 women with regular employment status who were included in the report on average hourly earnings, 872 of the men and 120 of the women were employed throughout the 1946 year. As a group, these workers averaged \$2,687 during the year, with men earning \$2,778 and women earning \$2,022. As shown in table 40, none of the women employees earned as much as \$3,000 during 1946, while more than a third of the men earned that much or more.

TABLE 40.—Percentage distribution of regular workers<sup>1</sup> in Hawaiian pineapple canneries by annual earnings and sex, 1946

Annual earnings	All workers	Men	Women	Annual earnings	All workers	Men	Women
Under \$1,600	2.8	2.3	6.7	\$3,400 to \$3,599	6.0	6.9	-----
\$1,600 to \$1,799	5.2	3.1	20.8	\$3,600 to \$3,799	2.6	3.0	-----
\$1,800 to \$1,999	8.0	4.5	30.8	\$3,800 to \$3,999	2.7	3.1	-----
\$2,000 to \$2,199	10.8	10.3	14.2	\$4,000 and over	4.9	5.6	-----
\$2,200 to \$2,399	9.6	9.1	13.3				
\$2,400 to \$2,599	12.0	12.8	5.8	Total	100.0	100.0	100.0
\$2,600 to \$2,799	10.3	11.1	4.2				
\$2,800 to \$2,999	10.9	11.8	4.2	Number of workers	992	872	120
\$3,000 to \$3,199	8.6	9.7	-----	Average annual earnings	\$2,687	\$2,778	\$2,022
\$3,200 to \$3,399	5.6	6.4	-----				

<sup>1</sup> Excludes office workers and minors.

The annual earnings of intermittent workers are presented in table 41. As would be expected, the proportion of the intermittent work force employed in February 1947 that was carried on the pay roll throughout 1946 was much smaller than that found in the regular employee group. Thus, only 169 of the 442 men and 399 of the 904 women workers reported on in the discussion of average hourly earnings worked often enough to be maintained on the pay roll during the entire year. It was found that men averaged a greater number of hours of work during the year than did women. This was reflected in correspondingly higher annual earnings reported for men. The average annual earnings for men were \$1,594, or 50 percent more than the average of \$1,064 recorded for all women intermittent workers combined. The wage advantage held by men on the basis of comparison of straight-time average hourly earnings, however, amounted to only 18 percent, which indicates the importance of the greater number of hours worked by men.

TABLE 41.—Percentage distribution of intermittent workers<sup>1</sup> in Hawaiian pineapple canneries by annual earnings, annual hours, and sex, 1946

Annual earnings	All workers	Men—annual hours				Women—annual hours			
		Total	Under 1,600	1,600 to 1,999	2,000 and over	Total	Under 1,600	1,600 to 1,999	2,000 and over
Under \$800	27.2	14.2	46.2	-----	-----	32.5	60.4	-----	-----
\$800 to \$999	7.4	8.9	28.8	-----	-----	6.8	12.6	-----	-----
\$1,000 to \$1,199	7.7	1.2	3.8	-----	-----	10.5	16.3	4.2	-----
\$1,200 to \$1,399	17.1	4.1	13.5	-----	-----	22.5	10.2	41.0	-----
\$1,400 to \$1,599	17.6	14.8	7.7	39.6	-----	18.8	.5	41.0	33.3
\$1,600 to \$1,799	9.5	16.0	-----	45.3	4.7	6.8	-----	10.2	55.5
\$1,800 to \$1,999	4.2	11.2	-----	11.3	20.3	1.3	-----	2.4	5.6
\$2,000 to \$2,199	5.8	17.8	-----	3.8	43.8	.8	-----	1.2	5.6
\$2,200 to \$2,399	2.8	7.7	-----	-----	20.3	-----	-----	-----	-----
\$2,400 and over	1.2	4.1	-----	-----	10.9	-----	-----	-----	-----
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of workers	568	169	52	53	64	399	215	166	18
Average annual earnings	\$1,222	\$1,594	\$850	\$1,666	\$2,139	\$1,064	\$723	\$1,441	\$1,646

<sup>1</sup> Excludes office workers and minors.

*Vacation policy*

Under terms of the union agreement, employees with a year of service received a 1-week vacation with pay and those with two or more years of service were eligible for an annual vacation of 2 weeks with pay. In order to qualify for the vacation, however, the employee must have worked at least 1,800 straight-time hours in the year immediately preceding his anniversary date of employment. Vacation pay was computed on the basis of 40 hours per week at the current straight-time hourly rate.

Credit was given toward a vacation for time lost on a scheduled workday for the following: Compensable industrial accidents; illness up to a maximum of 12 working days when excused by the company; and authorized vacation days.



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**PART IV**  
**NONPLANTATION AGRICULTURE**

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## CHAPTER 12. PRODUCTION AND WORKING CONDITIONS ON NONPLANTATION LAND

### FARMING

#### *Farming conditions in Hawaii*

The Hawaiian economy is essentially agricultural. It is a striking paradox, therefore, that the Territory is 65 percent dependent upon outside sources to meet its food needs. Sixty percent of the meat and meat products consumed in Hawaii come from the mainland. Nearly all of the grains, preparations, stock feed, vegetable oils and animal fats are also imported. Fifty-five percent of the eggs and egg products, and 80 percent of the fresh poultry imports come from the mainland. Less than 30 percent of the dairy products consumed in the islands are produced there. Even the production of fruits, vegetables and nuts represents only 50 percent of the annual local consumption.

For these reasons, there have been repeated efforts to make the islands more self-sufficient in food. The fear of isolation during the war intensified these efforts, and, at that time, there was a marked expansion in nonplantation agriculture (particularly in truck gardening) throughout all of the islands. This was a temporary wartime effort and since early 1945 there has been a recession toward prewar production levels.

This is not because land in Hawaii is unproductive. The mean temperature at sea level varies only 6° between winter and summer months. This equable climate permits very intensive cultivation on all arable land. It is possible, for example, to raise six to eight crops of garden vegetables in a single year. In view of these possibilities and the local market for farm products, why has not truck gardening and fruit growing expanded to meet the demand?

The basic answer to this question, which puzzles newcomers to Hawaii, is that the mass production methods on the plantations provide greater productivity per man-hour. The people of Hawaii achieve a higher standard of living by specializing in the two basic products and exchanging them for fruits, vegetables, and other requirements than they could maintain if sugar and pineapple land were taken over for diversified farming to meet local requirements. Of the 331,000 cultivated acres in the Territory, only 15,000 are devoted to nonplantation crops.

In addition to this basic reason, there are other impediments to the expansion of nonplantation agriculture:

(a) Extreme variations of soil, topography and rainfall exist within very small areas. Within the limits of the city of Honolulu, for example, there are variations in rainfall from 3 inches to as much as 120 inches per year. On Kauai, within a distance of a little over 1 mile, rainfall varies from a low of 5 inches to more than 250 inches a year. Altitude ranges from sea level to 14,000 feet. Soil types vary

from new lava and young soils to well-weathered lateritic types. Since the plantations already occupy the bulk of the arable land, only marginal land remains for nonplantation agriculture. Until recently, most of the farming was thus subsistence farming on small plots of marginal land as family enterprises. The primary limitation on the expansion of nonplantation farming is the lack of water. Government assistance has been requested for the development of irrigation projects which are now under consideration. The most promising project of this sort appears to be on the island of Molokai. These comments do not, of course, apply to beef cattle ranches which depend largely on land which, because of rocky soil, topography or insufficient rainfall, is not suitable for growing crops.

(b) The endless summer of Hawaii tends to encourage the rapid spread of insect pests and fungus diseases. Control measures are possible and in general are practiced, but they involve higher costs than competing farmers face in California, Oregon and Washington.

(c) An important limitation on the expansion of nonplantation agriculture is the high wage structure. Hawaii does not have the commercial advantage of cheap labor which is generally associated with production of fruits in other semitropical countries. This is a limiting factor in any future development of bananas or other tropical fruit as a Hawaiian export.

Eighty percent in value of Hawaiian agriculture is in sugar and pineapple. The remaining 20 percent is represented by cattle raising, dairying, vegetable production, hog raising, poultry and egg production, fruit and nut production, coffee, rice and taro production, flower growing, sheep raising and honey production. With the exception of sugar and pineapples, the bulk of the agricultural products of Hawaii are marketed within the Territory.

Nonplantation agricultural marketings totaled \$25,000,000 in 1946 as compared with \$112,000,000 for the two basic plantation crops.

Beef and dairy cattle marketings comprise 40 percent of nonplantation market values; fruit and vegetable marketings constitute 28 percent; hog raising, 12 percent; poultry and egg production, 10 percent; coffee, 6 percent; and all other, 4 percent.

Despite impediments to nonplantation farming, the economic pressure resulting from the increasing population has led to a gradual expansion. Although there has been a postwar recession from the abnormally high levels of the war years, the basic trend is toward an increase in farm crops.

### *Truck farming*

The value of annual vegetable production in Hawaii averaged about \$2,000,000 per year prior to the war. In 1941, 47,500,000 pounds of vegetables were produced. The leading crops at that time were cabbages, potatoes, tomatoes, and snap beans.

During the early war years the constant threat of isolation of Hawaii from the mainland, and of the islands from each other, led to a widespread effort to increase local self-sufficiency in food. Hence there was a sharp rise in the production of these crops and of normally imported vegetables such as lettuce, carrots, potatoes, onions, peppers, and sweetpotatoes. The total acreage of planted vegetables rose from 5,685 acres in 1941 to 7,395 acres in 1943. Vegetable production reached a peak of 8,550 acres in 1944, but receded to 7,760

acres in 1945 and still further declined to 5,915 in 1946. The bulk of the nonplantation cropland in Hawaii is marginal and until 1941 most of the vegetable production in Hawaii was on small subsistence farms. Many of the families engaged in this work are also marginal. The more energetic and able workers generally have obtained positions in connection with plantations or in town.

Early in 1936, sugar processing tax funds became available for the general benefit of agriculture in the islands. This provided for studies of vegetable production, and of the marketing of locally grown vegetables. Grading and packing demonstrations improved processing and marketing procedures. Crop reporting and market reporting services provided the farmers with information on which to base the timing of production for the most profitable marketing of each crop.

As a result of these improvements and the stimulus of the war itself, postwar vegetable production has remained on somewhat higher level than prewar. A larger percentage of vegetables is now grown on well-managed truck-gardening areas, but the small subsistence farm continues to be an important factor in production. A subsistence farm is generally a one-family enterprise, the majority of such families being Japanese. Occasionally the farm family may hire an outsider who generally lives with them and receives room and board as prerequisites.

It should be noted that it is possible to commute into local towns from almost any of the farming areas in Hawaii and that it is quite common for some members of families operating subsistence farms to work in town. Thus the farm frequently represents only a part of the family income. Under these conditions the work on the farm may be intensified or diminished in accordance with the job opportunities which are available to the members of the farm family.

Because of the high value of vegetable products, truck farming was profitable throughout the period from 1940 to 1946. Its future is dependent upon the costs of producing vegetables in Hawaii as compared with costs of producing and transporting vegetables from the West Coast States of Washington, Oregon, and California.

### *Fruits and nuts*

With the exception of pineapples, fruit production in Hawaii is small by mainland standards and consists primarily of bananas, papaya, avocados, and mangoes. A total of only 2,819 acres were devoted to fruit and nut cultivation in 1946; 976 acres were used for growing bananas, 518 for papaya, 755 for macadamia nuts,<sup>1</sup> and the remaining 570 for minor crops such as avocados and mangoes. Moderate quantities of bananas have been shipped to mainland markets ever since 1856, and exports reached a peak value of \$255,614 in 1925, but the present annual value is less than \$100,000.

Locally grown fruits and nuts form a significant element in the Hawaiian diet. Efforts are still being made to develop production to export levels, but recent increases in land values and wage levels and the cost of combating insect pests have stood in the way of any significant expansion of exports in these fields.

<sup>1</sup> The macadamia nut is a specialty of Hawaii and efforts are being made to increase the exports to the mainland. It has a unique flavor, but production costs are such that it must be marketed as a luxury item.

## THE COFFEE INDUSTRY

The first planting of coffee in Hawaii was made in 1813, but coffee plantations under intensive cultivation did not appear until 1842. The industry reached its peak in 1898, when coffee acreage reached a high of 13,947 acres on all islands, or nearly 10,000 acres more than are devoted to coffee today. Between 1900 and 1910 the large coffee estates were gradually divided into 5- to 10-acre holdings and leased to cultivators. This change from a plantation system to small individual lease holdings also witnessed a shift from Caucasian to Oriental growers, primarily Japanese. Between 1920 and 1930 the industry experienced some sharp ups and downs but was, on the whole, decidedly profitable because of the high prices resulting from the "Brazilian valorization policy." By 1936 coffee production, previously established on all of the islands, had centered in Kona on the island of Hawaii. Kona coffee is unusually strong and is considered excellent for blending, hence the concentration of the industry in this area.

The present coffee acreage is at an altitude of between 800 and 2,200 feet in a strip 2 miles wide and 25 miles long on the steep Kona slopes. The annual rainfall in this belt varies from 40 to 80 inches a year.

The largest crop was reported in 1934 with a production of 10,387,629 pounds. Until recently, coffee production was largely financed on credit. Small stores advanced merchandise, supplies, and fertilizer for the crop year to associated groups of 10 to 30 planters. These retail stores were, in turn, financed by the large coffee wholesalers. If the coffee growers were not able to finance harvesting, they obtained cash from small loan banks or from the storekeepers. Some coffee mills also made such advances to farmers. The harvested crop was typically sold to the stores, which in turn used it to pay the mills or the wholesalers who had advanced supplies or cash to them. This complicated system of wholesale and retail credit was the basis on which the coffee industry in Kona originally developed.

With the collapse of coffee prices in November 1929, the Hawaiian coffee industry entered into its worst period of depression. Heavy investments in the period of high prices by both growers and mills resulted in serious losses and a general tightening up of the credit system. During the past decade, there has been a gradual trend from the former credit system to a cash system which is attributable to four factors: (1) The cancellation or scaling down of the small growers' debts by the large creditors; (2) the promotion of sound financing by the Farm Security Administration and the Farm Credit Bureau; (3) the rise in coffee prices resulting from the war; and (4) the gradual improvement in techniques of production due to the agricultural experiment substitution in Kona and the work of the agricultural extension agents.

Because of the extremely weak position of the industry in the early thirties, legislative action has exempted coffee land and property from taxation whenever the average wholesale price for parchment coffee is below 10 cents per pound.

Following the depressed conditions of the early and middle thirties, there was a decided improvement in the industry. Prior to the war the local price of coffee rose from 4 cents to 9 cents per pound largely due to the American coffee agreement of 1941. Prices for parchment coffee rose from 11.6 cents per pound in 1942 to 12.6 cents in 1943-44

and to 19.5 cents in 1947. Since that time the labor shortage and the level of wages, rather than prices and markets, have been the primary cause in the decline of coffee production. During the past few years it has been necessary to reduce production below maximum levels because of the lack of pickers.

*Operations in the coffee industry*

*A. Coffee farm operations.*—1. Pruning (removal of dead branches) takes place shortly after the crop has been harvested. Such replanting as is necessary is also undertaken at this time. The average age of coffee trees is 20 years, so very little replanting is necessary in any given year. Part of the pruning operation consists of thinning out trees (removal of new shoots) and takes place intermittently during the year.

2. Cultivation (including weed and pest extermination): The coffee fields are kept in condition by spraying, weeding, hoeing, and by poisoning weeds. A second and even a third application of weed poisoning may be made later if undergrowth is persistent. The primary coffee pest is the rat. Rats eat the tender new shoots. As high as 80,000 rats have been exterminated during the dry season between January and June.

3. Fertilizing: Two applications of fertilizer are made, one in January or February, another in July or August.

4. Harvesting: At the peak of the season a good picker can pick as much as three bags a day. Five acres usually requires four or five pickers—about one picker per acre. The payment for picking a 100-pound bag of coffee during the regular harvest period rose from 65 cents in 1939 to \$1.65 in 1945 and to \$2 in 1947. In periods prior to and after the peak of the season the farmers pay an additional 25 cents per bag because it is then not possible to pick more than one or two bags a day. Since the average farmer operates only 5 to 10 acres, in the early and late period of picking when only a small quantity of cherries is ripening, the labor usually consists only of members of the farm family.

*B. Processing cherry coffee.*—1. The processor collects the cherry coffee from the farmers and puts it through the pulping machine to take off the cherry skin.

2. After pulping, the beans are fermented in vats of water for approximately 12 hours which makes it easy to wash the beans. Then they are spread out on drying floors to be sun-dried and are frequently turned. Sliding roofs above the drying floors must be closed promptly whenever it rains. Drying requires 3 to 6 days. At the peak of the season the coffee may be steam-dried to speed up the drying process.

At this point the coffee becomes "parchment coffee" and is ready for sale to the mill.

*C. Mill operations.*—1. The parchment coffee goes through a hulling machine which takes off the parchment skin and the inner "silver" skin.

2. Then it goes to the grader and is sorted according to size.<sup>2</sup>

3. The beans are then bagged in 100-pound sacks and shipped to the roaster.

<sup>1</sup> Large beans command a higher price (1) because there are proportionately fewer inferior beans in the larger sizes, (2) because it is more difficult to roast small beans evenly.

*Wages and working conditions*

In the coffee industry, which is not unionized, the minimum hourly rate in 1947 was 72 cents. In the mill the rate for the typical laborer ranges from 72 cents to \$1 per hour. The most highly skilled workers get as high as \$1.25 an hour. In the coffee mills, time and a half is paid for overtime (hours over 40 per week).

Including seasonal labor, in the neighborhood of 2,000 to 2,500 workers are employed on the estimated 700 "farms," which average 5 to 6 acres each.

In picking of cherries, adult males are continuously employed throughout the year. Women workers, who are predominantly wives and daughters of growers, are employed intermittently, and their efforts are especially strenuous at the height of the season.

With the exception of the shortage of labor at the peak of the coffee picking season, the coffee industry was in good condition in 1947 and the outlook for 1948 appeared good. Before the war it was common for Filipino laborers from sugar plantations to come to Kona for the coffee-picking season for additional earnings and for a change from plantation life. But the war prevented the movement of plantation labor, as noted before. Following the war, the plantations (also suffering from a labor shortage) had so increased wages that coffee picking was no longer financially attractive. There is now an acute shortage of labor to pick coffee during the height of the season (October, November, and December). Until 1947 this problem was partially solved by an arrangement whereby school vacation coincided with the peak of the coffee picking season. In May 1947, however, the Kona district voted to change the school year to conform to that of other areas.

The lack of labor at the height of the season results in a serious loss in coffee which ripens faster than it can be picked. This condition is especially bad if heavy rains occur at the height of the ripening, since cherries are knocked off and become spoiled very quickly. Contact with the ground contaminates the beans and spoils the taste of the coffee. In some cases, such losses run as high as 20 to 30 percent.

## RANCHING

The first cattle were brought into Hawaii from California by Captain Vancouver in 1793. By 1830, they had become commercially important, and by 1930, there were 138,316 beef cattle in the islands. The first cattle were Spanish longhorns, but today Herefords are most commonly raised. The increase between 1900 and 1940 is indicated below.

TABLE 42.—*Cattle in Hawaii, 1900-40*

Year	Number <sup>1</sup>	Year	Number <sup>1</sup>
1900.....	85,391	1930.....	138,316
1910.....	136,447	1940.....	139,078
1920.....	137,091		

<sup>1</sup> U. S. Census reports.

Mainland Americans are surprised to learn that one of the largest ranches in the United States is located on the island of Hawaii. As of January 1, 1947, there were 82,730 head of cattle on this island on a

grazing area of slightly less than a million acres; 24,600 head on Maui on a grazing area of 141,250 acres; 13,860 on Kauai and Niihau on 135,250 acres; 3,760 on Oahu on 16,600 acres; and 5,360 on Molokai and Lanai on 76,625 acres.

Hawaiian beef cattle marketed in 1946 totaled 38,835 head (approximately 17½ million pounds of dressed beef) valued at the slaughterhouse at \$4,513,000, an increase of 24 percent over 1945. This total does not include 8,605 head of dairy cattle and calves sold for meat in 1946, valued at \$323,000.

In spite of the increase in local production, considerable quantities of beef must be imported to meet Hawaiian needs. It is interesting to note that 20 years ago, nearly 4,000,000 pounds of chilled beef and veal were annually imported, largely from New Zealand and Australia. Since that time, there has been a rapid shift to purchases from the mainland. Although three times as much beef and veal are now imported, practically none of it is purchased outside of the United States.

TABLE 43.—*Beef imports, 1930-45*

Year	From foreign countries	From the mainland, United States	Total
	(Pounds)	(Pounds)	
1930.....	3,080,682	631,837	3,662,519
1935.....	279,320	4,334,013	4,613,333
1940.....	366,298	9,410,477	9,776,775
1945.....	None	12,270,115	12,270,115

Source: Bureau of Foreign and Domestic Commerce reports.

Imports of mainland fresh chilled beef in 1946 aggregated slightly over 13,000,000 pounds. It should be noted that imported beef was largely for the use of military forces and that military needs still constitute a significant element in the total demand for such imports.

In January 1947 there were 228 commercial ranches in the Territory (a ranch being defined as one with 20 or more cattle).

To date the ranches of Hawaii have been less directly affected by unionization than have the plantations. The present trend on those ranches that are operated in connection with plantations is toward standardized working arrangements on the ranch in conformity with those on the plantation. Generally speaking, the ranches still provide perquisites including housing, medical care, and such special perquisites as the sale of beef and milk to ranch workers at less than the market price, the use of trucks to transport workers and their families to beaches or places of amusement, and the use of mules or horses to hunt wild pigs or other game. Such special arrangements are so numerous and varied that it is not possible to place an accurate evaluation on ranch perquisites.

Ranch hands must be able to turn to any type of ranch work when the occasion requires it. The primary operations are: (1) The maintenance of fences, houses, buildings, and pens; (2) the maintenance of the water system; (3) the control and eradication of noxious weeds; (4) the maintenance of motorized equipment; and (5) the round-up and shipment of cattle.

In the even, warm climate of Hawaii little attention need be given directly to the cattle so long as the regular operations continue

smoothly. Thus, fence repair, weed control, and other maintenance operations are more important on Hawaiian ranches than are the activities normally associated with the cowboy. Many ranches maintain dairies to meet local needs and a few raise corn and oats for feed and fresh vegetables for use on the ranch, or for commercial sale.

In conformity with the Territorial Wage and Hour Act, ranches maintain a 48-hour week with time and half for overtime and on Sundays and holidays.

In April 1947, hourly rates of pay for ranch labor exhibited a wide range—from about 40 cents to \$1.15 per hour. On some of the older and larger ranches, salaries, rather than hourly rates, are typical. Monthly earnings of full-time salaried employees range from approximately \$140 to \$300. Part-time or temporary workers are often hired to assist regular employees in meeting emergencies or during peak periods. Skilled maintenance men (carpenters and mechanics) and the older experienced cowboys are the most highly paid groups.

Women are not employed for regular ranch work, but a few are employed as office workers and cleaning women. Occasionally schoolboys are hired for general utility and clean-up work on a part-time basis on holidays; but pay rolls indicated the employment of minors to be negligible.

#### DAIRYING

The dairy industry was originally established on the island of Oahu to supply settlers and ships while in port. Longhorns were first introduced, but today Holstein cattle are the most numerous, followed by Guernseys, Jerseys, and Ayrshires. There has been an expansion during the past 15 years from fewer than 7,000 milk cows in 1932 to over 10,000 mature dairy cattle in 1947. About half of these are on the island of Oahu, 30 percent on Hawaii, 10 percent on Kauai, and 10 percent on Maui.

Milk production increased from 2,336,480 quarts in 1900 to 20,630,340 quarts in 1940. The industry suffered a temporary set-back after December 7, 1941, due to black-out restrictions, the shortage of labor, and the scarcity of feed. Expansion was resumed in 1943, however, by virtue of the "freezing" of dairy labor, first by the office of the military governor, and later under the Hawaii Defense Act. The wartime office of food production recorded an annual production of 30 and 31 million quarts of fresh milk for 1943 and 1944, respectively.

Marketings by the dairy industry during 1946 were valued at \$5,000,000. This high valuation was only partially due to increased milk production (33,000,000 quarts). Higher feed and labor costs have resulted in sharp price increases. In March 1947 the retail price of fresh milk in Honolulu averaged 23.7 cents a quart.

Hawaii produces negligible amounts of butter, cheese, and other processed dairy foods; consequently, the Territory is dependent upon outside sources for these items. In the late twenties and early thirties, they were supplied largely by New Zealand and Australia. At present, they are imported from the mainland.

Dairying in Hawaii ranges from small family units to large company-owned dairies. Many of the plantations also operate dairies. Conditions on dairy farms are similar to those on the ranches, that is, perquisites are generally furnished to dairy workers in the form of



free housing and the opportunity to buy milk and meat at lower than market prices.

Practically all of the local production is consumed in the form of fresh milk or ice cream. The processing and distribution of these products, as well as the grinding and distribution of cattle feed to dairies, are highly unified in respect to ownership and operations.

A study of labor in the dairy industry in April 1946<sup>3</sup> indicated that there were 2.7 percent part-time employees (20 hours or less per week); 75 percent were on a 40-hour week, and 22.3 percent on a 48-hour week. Their hourly earnings are given in table 44.

TABLE 44.—Average hourly earnings of workers in the dairy industry, April 1946<sup>1</sup>

Occupation	Number of workers	Average hourly earnings
Clerks (stockroom, billing, shipping, office).....	30	\$0.978
Supervisors, milk route.....	2	1.947
Driver-salesmen (wholesale).....	13	<sup>2</sup> 1.125
Drivers, retail.....	6	<sup>2</sup> 1.178
Foremen, plant and milker.....	3	1.354
Milkers.....	6	1.094
Laborers (dairy).....	30	.902
Laborers (warehouse).....	9	.900
Pasteurizing and process men.....	8	1.101
Ice box men, junior and senior.....	13	1.074
Loaders.....	8	1.058
Mechanics, auto and refrigeration.....	26	1.379
Machine operators, bottle fillers, bottle and can washers.....	5	1.050
Helpers, mechanics, carpenters, machine operators, etc.....	24	.904

<sup>1</sup> Territorial department of labor and industrial relations, prevailing wages and hours of employees in the dairy industry, April 1946.

<sup>2</sup> Excluding commissions.

The processing and distribution functions of the dairy industry are unionized. The 1947 union contract of the Dairy Workers' Union of Hawaii, Local 946 (affiliated with the A. F. of L.), covers: (1) milk, ice cream, and retail departments; (2) feed department. It provides for a 40-hour week with time and a half for hours over 8 per day and 40 per week with the exception of the country wholesale milk drivers and drivers on established ice cream sales routes, who are on a 6-day, 48-hour week. Time and a half is also paid for 8 holidays when worked. One week's vacation is given after 1 year of service and 2 weeks after 2 years of service. The January 1947 increase established hourly rates of \$1.30 for drivers, \$1.18 for stockroom clerks, \$1.67 for senior mechanics, \$1.20 for loaders and \$1.09 for mechanic helpers.

The expansion of the dairy industry (and the consequent increase in employment) is based on: (1) the growth in the use of electric refrigerators accompanied by a shift from canned to fresh milk consumption in rural as well as urban areas, (2) the growth of plantation dairies, (3) the use of less expensive island-grown feeds (such as pineapple bran processed from peelings from the canneries) in the place of imported feeds, and (4) improved techniques for disease control, weeding out low-production cows, and the use of modern equipment.

At the same time the industry is in the midst of a complicated transition: (1) toward a single-management control over processing and distribution functions, (2) toward stronger union organization,

<sup>3</sup> Territorial department of labor and industrial relations, prevailing wages and hours of employees in the dairy industry, April 1946.

(3) toward more government action in the regulation of labor-management relations, the maintenance of quality and the prevention of exploitive practices. In spite of the expansion of the industry, fresh milk consumption in Hawaii is low as compared with mainland standards. The Territory annually imports 20,000,000 pounds of canned milk valued at \$15,000,000, and is dependent upon imports for processed dairy products.

#### HOG RAISING

No records are available covering introduction and development of hog raising in Hawaii, but during the latter half of the nineteenth century there was a swine-exporting business to California from Hawaii. In 1900 the total number of hogs in the Territory amounted to 8,087 which, by 1940, had increased to 31,684. Duroc-Jerseys, Berkshires, and Tamworths are the predominant breeds. A characteristic of the industry in Hawaii is that it is heavily dependent upon garbage collected from homes, hotels, restaurants, and schools. During the war large amounts of garbage available from Army and Navy kitchens scattered throughout the Territory resulted in a program for raising swine to convert this waste and to make the islands more self-sufficient. The number of swine rose sharply to 65,186 in 1943 and to 90,800 in 1944. The postwar period has witnessed a decline to 80,000 in 1945 and a further decline to 56,900 in 1946. Marketings in 1946 totaled 12,382,000 pounds live weight. The Hawaiian swine industry is limited to fresh pork production. Practically all cured pork products, such as hams, bacon, lard, and sausages, are imported. The industry is largely in the hands of the Japanese and Chinese. The Japanese tend to concentrate on production and the Chinese on marketing.

#### POULTRY AND EGG PRODUCTION

Annual poultry and egg production in Hawaii gradually rose from 31,888 chickens producing 155,710 dozen eggs in 1900 to 272,590 chickens producing 2,053,000 dozen eggs in 1939.

Hawaii produces slightly less than half of the eggs needed for the island markets, and in 1946 imported 3,400,000 dozen eggs. The annual per capita consumption of the Territory is slightly over 11 dozen eggs, which is somewhat lower than the mainland consumption level.

Prior to 1930 the industry was generally regarded as a source of pin money for women and children on subsistence farms, but it now ranks fifth in value of all nonplantation farm products. The total number of chickens in December 1946 was estimated at 415,200 with an egg production for the year of 2,366,000 dozen eggs. The total wholesale value of egg marketings for that year was \$1,948,000. The industry has been subject to serious fluctuations. Poultry feeds are imported, hence production is directly affected by transportation problems and changes in the prices of mainland feed.

As of August 1946, there were 748 commercial poultry farms,<sup>4</sup> 357 of these being on Oahu and 256 on Hawaii. These farms are primarily for egg production and are not large by mainland standards, 92 percent of all farms having less than 1,500 layers.

<sup>4</sup> Includes farms with poultry flocks of 100 or more hens 6 months old and over.

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**PART V**  
**TOURIST TRADE**

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## CHAPTER 13. TOURIST TRADE

As of 1947 the tourist trade in Hawaii was far below prewar levels and could not be considered as a primary source of income to the Territory. One immediate effect of the Japanese attack of December 7, 1941, was to blot out the tourist industry. The lack of transportation and the acute shortage of housing in Hawaii have been serious impediments to a return to normal levels. These difficulties are gradually being overcome and it is expected that the tourist trade will eventually exceed that of the prewar period.

The primary reason for this expectation is that Hawaii is now served both American and foreign air lines. Rates were reduced in the spring of 1947, and the time between Honolulu and San Francisco was cut. It thus becomes practicable for those who are limited to 2 weeks' vacation to consider Hawaii as a vacation resort.

As an added inducement, the Hawaii Visitors Bureau is urging the expansion of hotel and transport facilities on the various islands. The prewar tourist trade centered in the Waikiki area of Honolulu and relatively few tourists visited the other islands. The present program is designed to enlarge the area of tourist attraction and, to a limited degree at least, decentralize the trade. This again is feasible because of air travel. Interisland passengers are now carried almost exclusively by air lines and traffic is expanding rapidly. Scheduled planes leave Honolulu several times daily for all principal islands. The longest of these flights requires only 90 minutes.

The tourist industry in 1939 was estimated to rank third among the industries in Hawaii in creating occupational opportunities. A steady increase in number of through passengers and tourist arrivals from 1932 through 1939 is revealed by the data compiled by the Hawaii Tourist Bureau.<sup>1</sup> In 1940 and 1941 the number of through passengers declined because of political uncertainties in the Far East but the number of tourist arrivals continued to increase. In 1941, 30,425 tourist arrivals were from the mainland, 991 were from the Orient, and 430 from the Australia and New Zealand areas. Three hundred and thirty-four steamers and clippers arrived in Hawaii in 1941 (exclusive of interisland ships and planes).

It is estimated that the number of tourists (nonresidents who remain in Hawaii 2 days or more) will be approximately 50,000 in 1948,<sup>2</sup> or twice that of the last prewar year. The number of through passengers (passengers on trans-Pacific steamers or air lines who are in Hawaii only during the ship's or plane's stop-over) are not included in the estimate.

In the prewar period Honolulu was a regular port of call for ships operated by five American steamship lines and two foreign-flag

<sup>1</sup> The Hawaii Tourist Bureau was directly associated with the Honolulu Chamber of Commerce. However, in recognition of the importance of the tourist trade the Territorial government appropriated one-third of the funds for the organization, which were matched 2 to 1 by subscriptions raised in the islands. The bureau suspended operations on June 30, 1942. It resumed operations in June 1945 as the Hawaii Visitors Bureau.

<sup>2</sup> Estimate made by Hawaii Visitors Bureau. Matson Navigation Co. in its hearings before the Civil Aeronautics Board forecast 55,000 arrivals a year.

steamship lines. Passengers brought into Hawaii exceeded 40,000 in 1941.<sup>3</sup>

TABLE 45.—Number of through passengers and tourist arrivals, 1922-41<sup>1</sup>

Year	Through passengers <sup>2</sup>	Tourist arrivals <sup>3</sup>	Year	Through passengers <sup>2</sup>	Tourist arrivals <sup>3</sup>
1922	18,202	9,676	1932	16,662	10,370
1923	19,492	12,021	1933	17,173	10,111
1924	19,103	12,468	1934	25,110	16,161
1925	19,201	15,193	1935	25,992	19,933
1926	19,478	16,762	1936	27,942	22,199
1927	19,657	17,451	1937	31,951	21,987
1928	20,798	19,980	1938	27,132	23,045
1929	22,262	22,190	1939	41,156	24,381
1930	21,585	18,651	1940	24,171	25,373
1931	19,268	15,780	1941	23,830	31,846

<sup>1</sup> No figures after Dec. 7, 1941, are available due to the war.

<sup>2</sup> All cabin passengers on trans-Pacific steamers and air passengers who are in Hawaii only during ship's or plane's stay in port.

<sup>3</sup> Those who spend 2 days or more in port.

The present capacity of the two major steamship lines is approximately 4,000-5,000 through passengers per month and 1,100 passengers with Hawaii as their destination point. If ships being converted and under construction are placed in operation by 1948 these steamship companies should approximate their prewar capacity.<sup>4</sup>

In April 1947 the scheduled passenger air-line capacity was approximately 3,500 a month.<sup>5</sup> This did not include unscheduled flights. Plane travel between Hawaii and the mainland is expanding rapidly.

Assuming that the majority of resident guests vacate tourist hotels by 1948, the hotel capacity for tourists in Hawaii has been estimated to be 80,838 per year.

There has been a remarkable rise in interisland air travel. In 1940 the total number of passengers carried by the Interisland Steam Navigation Co. was 158,328 with 28,624 passengers flown by Hawaiian Airlines, Ltd., or a combined total of 186,952 passengers.<sup>6</sup> In 1946 the passenger travel had increased to a total of 297,692 of which only 47,097 were ship passengers.<sup>7</sup>

The estimated income from approximately 25,000 tourists in 1940 was \$12,000,000. Data on numbers of tourists in 1946 and 1947 are not available, but the number was small by prewar standards. If the forecasts for 50,000 tourists in 1948 should materialize, the amount of

<sup>4</sup> Figure compiled by Hawaii Tourist Bureau.

<sup>5</sup> Matson Navigation Co.:

Prewar, 4 ships (3, capacity 700) 5 sailings between California and Hawaii a month—(1, capacity 350) 1 sailing to Australia every 4 weeks.

Present, 1 ship, average capacity 550, 1 sailing between California and Hawaii every 2 weeks.

Future, 3 additional reconverted ships, capacity 750 each, weekly sailing between California and Hawaii. Sailing to Australia every fifth week.

American President Lines:

Prewar, 6 trans-Pacific ships (average capacity 400), 10 arrivals a month in Hawaii; 7 round-the-world.

Present, 4 converted troopships every 2 weeks; trans-Pacific (2, capacity 1,500 each), 1 stopping at Hawaii en route to coast—(2, capacity 1,000 each), 1 stopping at Hawaii en route to Orient.

Future, 4 additional vessels (average capacity 550).

<sup>6</sup> Pan American World Airways: Daily flight each way, Los Angeles-Honolulu, capacity 25-30; San Francisco-Honolulu, capacity 25-30. Arrivals from local flights 50-60 a day. Three flights a week, San Francisco-Honolulu-Manila, arrivals 90 a week. Six flights a month, San Francisco-Honolulu-Australia-New Zealand, arrivals 180 a month.

United Air Lines: Started operating May 1, 1947, 1 flight daily Honolulu-San Francisco, capacity 40-44; 1 flight daily San Francisco-Honolulu, capacity 40-44, arrivals, 40 a day.

<sup>7</sup> Throughout 1947 there was a rapid rise in the capacity of air lines operating between Hawaii and the mainland.

The large decrease in passenger travel by water is due to the reduction in interisland passenger boats from 4 to 2. On May 27, 1947, the Interisland Steam Navigation Co. announced discontinuance of regularly scheduled passenger ships.

revenue from this source would sharply increase not only because of the increase in the number of tourists but also because of the general rise in prices between 1940 and 1948.

The expenditures of tourists were a basic source of income in Hawaii for most of the hotels and restaurants, taxicab and car-rental enterprises, curio shops, bathing and surf-boarding establishments, as well as a large portion of the income of clothing establishments (especially beach wear), theaters, interisland transportation companies, public clubs for golfing and dancing and such colorful occupations as the vending of leis and hula dancing.

Although the tourist trade was nonexistent from December 1941 until the end of 1945, and in 1946-47 had only begun to show signs of a revival, it is nevertheless an important factor in any analysis of Hawaii's present economic position. During the war the expenditures of service personnel and of civilians employed by the Army and Navy in Hawaii far exceeded those of the prewar tourists in those industries formerly dependent upon such income. There has been a sharp post-war decline in the number of service personnel and in Federal employment. The best immediate prospect for offsetting this decline is the tourist trade.

An increasing dependence on tourists will add to the complexity of employment and welfare problems in the Territory. Unlike the sugar industry, the tourist trade is a luxury trade and is highly sensitive to basic economic conditions. The greater the dependence on the tourist industry, the greater will be the ups and downs of prosperity and depression in Hawaii.





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PART VI  
SUBSIDIARY INDUSTRIES

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## CHAPTER 14. BUILDING CONSTRUCTION

### *The nature of construction in Hawaii*

Construction activity in the Territory of Hawaii, as on the mainland, has been subject to wide fluctuations in volume and type of construction during the last decade. The sharp rise in normal construction activity in the 1936-41 period was brought to a halt by the attack on Pearl Harbor. Materials and labor were largely diverted to the construction of Army and Navy installations. Defense construction rose to an all-time high during the war. The rapid growth of Honolulu and adjacent areas during the war, together with the restrictions on normal building construction, has produced an acute housing shortage. Statistics on construction activity on the island of Oahu are thus especially significant in an examination of basic (non-military) trends in the industry. Figures drawn from reports prepared by the Department of Buildings, City and County of Honolulu, on the estimated value of construction (including new construction, repairs, additions and alterations) reveal that a new high level of building activity was reached in 1946.

TABLE 46.—*Number and estimated value of building permits issued on the island of Oahu, 1936-46*

Year	Number of permits	Estimated value	Year	Number of permits	Estimated value
1936.....	3,008	\$4,490,075	1943.....	4,201	\$3,374,208
1938.....	4,420	9,584,438	1944.....	4,729	9,490,511
1940.....	6,797	10,845,312	1945.....	5,475	11,817,863
1941.....	6,268	11,874,279	1946.....	7,470	23,020,734
1942.....	2,303	2,683,895			

<sup>1</sup> That a part of the sharp rise in dollar volume of construction in the postwar period represents increased costs in building is suggested by a comparison of unit costs. In 1944, permits were issued for 701 1-family dwellings estimated to cost \$3,981,136, with an average value of \$5,679. By 1946, the average value of permits issued for 1-family dwellings had risen to \$6,644, or 17 percent, based on 1,053 permits with an aggregate value of \$7,029,053.

Although only 2,473 of the 7,470 permits issued in 1946 were for new construction, nearly \$18,000,000 of the aggregate estimated value of all construction projects in that year went for new dwellings, factories, institutions, stores, and other buildings. A major change in the nature of construction activity took place in the postwar period. A comparison of data for 1944 and 1946, by type of construction, showed that the volume of construction of stores and mercantile buildings (as measured by total permit values) rose very sharply and the increase in this type of building accounted for nearly one-half of the total rise in value of new construction during this period. Multifamily dwellings and factories accounted for much larger proportions of total value of new construction in 1946 than in the earlier year.

TABLE 47.—*Estimated value of building permits for new construction issued on the island of Oahu, by type of construction, 1944 and 1946*

Type of construction	Estimated permit valuation			
	1944		1946	
	Amount in thousands	Percent of total new construction	Amount in thousands	Percent of total new construction
Dwellings, 1- and 2-family.....	\$4, 107	57. 5	\$7, 128	39. 8
Dwellings, multifamily.....	175	2. 5	2, 464	13. 7
Factories.....	60	. 8	381	4. 9
Public works and utilities.....	1, 185	16. 6	149	. 8
Stores and mercantile buildings.....	250	3. 5	5, 517	30. 7
Other buildings.....	1, 364	19. 1	1, 308	10. 1
Total.....	7, 141	100. 0	17, 947	100. 0

Total employment in all types of contract construction activity in Hawaii was estimated to be in excess of 10,000 in September 1946. Of the more than 500 contractors employing 1 or more workers at that time, nearly one-half were general contractors engaged in the construction of buildings used for residential, commercial, or industrial purposes. Nearly 6,000 of the total employment in construction activity were employed directly by this group of general contractors. The largest group of contractors, accounting for more than one-half of the total, were classified as special-trade contractors. Employing slightly less than 2,000 workers, this group included contractors who specialized in one or a related group of activities such as plumbing, heating, and air conditioning; painting, paperhanging, and decorating; electrical work; masonry, stonework, tile setting, and plastering; carpentering and wood flooring; roofing and sheet-metal work; or concrete work. A third group, numbering less than a score but employing one-fourth of all construction workers in September 1946, was composed of general contractors who were primarily engaged in heavy nonbuilding construction work including highway and steel construction, bridges, and viaducts.

With few exceptions, general contractors employing 10 or fewer workers limit their operations to residential construction. Nearly all commercial and public-building construction is done by the larger firms, most of which do little or no residential work. A few of the general contractors normally engaged in the construction of buildings undertake the building or maintenance of public and private roads, or engage in other types of business activity, such as general trucking or millwork production.

#### *Earnings in the construction industry*

The study of hours and earnings in building construction is based on data collected from 53 contractors accounting, as a group, for approximately one-fourth of the total employment in the industry.<sup>1</sup> Establishments visited, including 28 general contractors and 25 special-trade contractors, were selected to represent each segment of the industry as well as other important factors bearing on wages. Reflecting the heavy concentration of construction activity in Hono-

<sup>1</sup> The study was limited to contractors employing five or more workers. General contractors primarily engaged in work other than building construction were excluded from the study.

lulu, 46 of the 53 contractors included in the study were located on the island of Oahu. Although minors, part-time workers, and office workers were included in the study, data for these groups have been omitted from the tables and are presented separately.

Straight-time hourly earnings of 1,972 adult, full-time workers (all men) employed by the 53 contractors averaged \$1.41 during March-April 1947, the period selected for study. Rates of individual workers ranged from under 70 cents an hour to as high as \$3 per hour. As indicated in the percentage distribution of workers by average hourly earnings intervals, presented in table 48, the heaviest concentration of workers was found in the 10-cent class interval 150.0 to 159.9, in which 21.2 percent of the workers fell. Other 10-cent class intervals in which 12 percent or more of the workers were grouped were as follows: 100.0 to 109.9 cents; 110.0 to 119.9 cents; and 170.0 to 179.9 cents. The concentration of workers at these points along the earnings scale results from the occupational composition of the work force in the industry. The great majority of the workers fell into two general groups, widely separated as to wage rates. At the lower end of the wage scale were the construction laborers and the helpers in the various crafts. The second group, composed of skilled workers and working foremen in the numerous construction trades, accounted for nearly one-half of total employment in the industry, which explains the concentration of workers in the higher-wage brackets.

TABLE 48.—Percentage distribution of all workers<sup>1</sup> in the building-construction industry in the Territory of Hawaii by straight-time average hourly earnings,<sup>2</sup> March-April 1947

Average hourly earnings <sup>2</sup>	All workers	Average hourly earnings <sup>2</sup>	All workers
Under 80.0 cents.....	1.6	145.0 to 149.9 cents.....	1.6
80.0 to 84.9 cents.....	.7	150.0 to 159.9 cents.....	21.2
85.0 to 89.9 cents.....	1.6	160.0 to 169.9 cents.....	8.1
90.0 to 94.9 cents.....	1.4	170.0 to 179.9 cents.....	12.0
95.0 to 99.9 cents.....	.6	180.0 to 189.9 cents.....	2.9
100.0 to 104.9 cents.....	11.7	190.0 to 199.9 cents.....	2.6
105.0 to 109.9 cents.....	.9	200.0 to 209.9 cents.....	1.8
110.0 to 114.9 cents.....	8.0	210.0 cents and over.....	1.6
115.0 to 119.9 cents.....	4.0		
120.0 to 124.9 cents.....	3.3	Total.....	100.0
125.0 to 129.9 cents.....	5.1		
130.0 to 134.9 cents.....	1.4	Total number of workers.....	1,972
135.0 to 139.9 cents.....	5.8	Average hourly earnings <sup>2</sup> .....	\$1.41
140.0 to 144.9 cents.....	2.1		

<sup>1</sup> Excludes office workers, minors, and part-time workers.

<sup>2</sup> Excludes premium pay for overtime and night work.

Straight-time average hourly earnings in the lowest-paid job classification, i. e., laborer, amounted to \$1.01 at the time of the study. As indicated in table 49, first-class carpenters averaged \$1.51 and first-class painters, as a group, earned \$1.52 an hour. The group averages for first-class workers in the electrical, bricklaying, and pipe-fitting and plumbing trades were closely grouped, the average hourly earnings, in the order named, having been recorded as \$1.68, \$1.69, and \$1.70. First-class tile setters averaged \$1.82 an hour. Many of the contractors employed workers who did not qualify as journeymen (first-class) in their trade and were, therefore, classified (by the employer) as either second-class or third-class workers depending upon the ability and experience of the individual employee. The

majority of the workers in each trade, however, were found to be designated as first-class workers.<sup>2</sup> The difference in average hourly earnings between first-class and second-class workers in individual trades ranged from 18 cents, in the case of carpenters, to as much as 38 cents an hour for pipe fitters and plumbers.

TABLE 49.—*Straight-time average hourly earnings<sup>1</sup> in selected occupations in the building construction industry<sup>2</sup> in the Territory of Hawaii, March-April 1947*

Occupation and grade	Number of workers	Average hourly earnings <sup>1</sup>
Bricklayer foremen .....	8	\$1.80
Bricklayers:		
First-class .....	45	1.69
Second-class .....	6	1.33
Bricklayers' helpers .....	22	1.17
Carpenter foremen .....	109	1.72
Carpenters:		
First-class .....	305	1.51
Second-class .....	62	1.33
Third-class .....	15	1.17
Carpenter's helpers .....	52	1.08
Electrician foremen .....	13	1.93
Electricians, first-class .....	45	1.68
Laborers .....	274	1.01
Painter foremen .....	25	1.72
Painters, first-class .....	66	1.52
Painters' helpers .....	19	1.09
Pipefitter and plumber foremen .....	12	1.96
Pipefitters and plumbers:		
First-class .....	62	1.70
Second-class .....	15	1.32
Pipefitters and plumbers' helpers .....	48	1.14
Tile setters, first-class .....	15	1.82
Tile setters' helpers .....	13	1.16
Truck drivers:		
10 tons or over .....	14	1.37
5-10 tons .....	12	1.23
Under 5 tons .....	9	1.05
Tonnage not specified .....	41	1.18

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> Excludes minors and part-time workers.

Although some variation was found in wage rates paid in individual job classifications, the majority of the workers in all except one or two of the job categories were paid the rate established in May 1946 by the wage-adjustment board for the building and construction industry. In the case of laborers, for example, the board order of May 21, 1946, authorized a rate of \$1 an hour. Although the wage controls were discontinued in November 1946, two-thirds of the laborers were paid at this rate at the time of the study, and the rates paid to the remainder were about equally divided above and below the general rate. As another illustration of the continuing use of the authorized wage scale, 85 percent of the first-class carpenters were paid \$1.50 an hour, the rate established by the Federal board. An exception to the general rule was noted in the case of bricklayers, for whom a rate of \$1.90 was authorized in 1946. The group average for first-class bricklayers was found to be \$1.69 an hour in March-April 1947, and 24 of the 45 workers reported in this job category were paid less than the \$1.90 rate.

Japanese workers in the industry outnumbered all other racial groups combined. Only two other racial groups, Filipinos and Caucasians, accounted individually for as much as 10 percent of the labor

<sup>3</sup> The number of second-class or third-class workers found in some of the construction trades was too small to justify the presentation of an average wage-rate figure.

force. As shown in table 50, the highest wage rates, on the average, were paid to Caucasians, who earned \$1.49 an hour compared with average hourly earnings of \$1.20 recorded for Filipinos, the racial group with the lowest average earnings. Japanese and Chinese workers averaged \$1.46 an hour, or 5 cents an hour more than the average earnings of all construction workers combined. These differences in earnings did not arise from a practice of paying lower job rates to some of the racial groups, but rather from the fact that the various races were unevenly distributed in the construction trades and other jobs in the industry. While 19 percent of the workers were Filipinos, 51 percent of the laborers but only 3 percent of the first-class carpenters and 11 percent of the first-class painters were found to be Filipinos. In contrast, only 18 percent of the laborers were Japanese, whereas 88 percent of the first-class carpenters and 77 percent of the first-class painters employed in the covered establishments were of that race.

TABLE 50.—Average hourly earnings, average weekly hours, and average gross weekly earnings of workers<sup>1</sup> in the building construction industry in the Territory of Hawaii by racial group, March–April 1947

Racial group	Number of workers	Average straight-time hourly earnings	Average gross hourly earnings	Average weekly hours	Average gross weekly earnings
All races.....	1,972	\$1.41	\$1.49	43.2	\$64.41
Japanese.....	1,003	1.46	1.54	44.6	68.75
Filipinos.....	365	1.20	1.27	41.8	53.08
Caucasians.....	329	1.49	1.60	42.7	68.20
Hawaiians and part Hawaiians.....	156	1.35	1.43	40.3	57.52
Chinese.....	72	1.46	1.54	41.7	64.34
Puerto Ricans.....	26	1.28	1.33	35.9	47.80
All others.....	21	1.33	1.43	46.6	66.64

<sup>1</sup> Excludes office workers, minors, and part-time workers.

A 48-hour workweek was scheduled by most of the contractors. Shorter weekly hours were, however, reported by 6 of the general contractors and 14 of the special-trade contractors. In the latter group, a 40-hour week was the general rule among roofing and sheet-metal contractors and among most of the electrical contracting firms. Time and one-half the regular rate was paid for overtime by all except two of the contractors, both of whom were general contractors. Fourteen of the general contractors and an equal number of special-trade contractors visited indicated a policy of paying the overtime rate for work in excess of 8 hours per day or 40 hours per week. Most of the other firms also paid the overtime rate for work in excess of 8 hours per day but otherwise limited the payment of overtime to time in excess of the scheduled workweek which ranged within this group from 44 to 48 hours. The effect of these overtime policies on earnings in the industry is indicated in table 50. The average weekly hours worked by the 1,972 employees included in the study amounted to 43.2 hours. A sufficient amount of time was worked at overtime rates to bring the gross average hourly earnings to \$1.49, or 8 cents above the straight-time average hourly earnings in the industry. Gross weekly earnings averaged \$64.41 in March–April 1947. Of the 53 establishments included in the study, 21 general contractors and 18 special-trade contractors paid their employees each week. The

length of the pay roll period was found to be 2 weeks in five establishments, one-half month in the case of four firms, and a month in the remaining five firms.

A few adult workers were employed on a part-time basis. In several cases employers reported that their part-time employees worked only on week ends to supplement wages received from other regular jobs. Only 6 minors (16- and 17-year olds) were employed by the group of contractors visited. All of the minors were employed as helpers at rates ranging from 65 cents to \$1 an hour.

More than half of the contractors visited had a policy of granting Christmas or year-end bonuses to their employees. While several firms reported granting bonuses of \$100 or more to key employees or employees with records of long service, the great majority of these gift payments amounted to \$25 or less. The larger firms, among general contractors as well as special-trade contractors, generally did not have a policy of granting bonuses and the proportion of the total number of workers who received bonuses in 1946 was, therefore, considerably less than half.

At the time of the study only 3 of the 28 general contractors and 6 of the 25 special-trade contractors were operating under terms of written agreements with labor unions. The firms that had signed contracts with unions were, in most cases, among the largest employers in the various branches of the industry.

Vacations with pay were granted by 18 of the 53 contractors included in the study. Only 8 of the 18 firms, however, indicated a policy of granting paid vacations to construction workers, the remainder having stated that such leave was limited to office workers and salaried employees. Vacation plans for construction workers as well as office workers generally provided 2 weeks of vacation to employees with a year or more of service. Formal plans for granting paid sick leave had been adopted by two contractors, and several others indicated that office workers and other salaried employees received full pay for time lost due to illness or injury.



## CHAPTER 15. PUBLIC UTILITIES AND TRANSPORTATION

### PUBLIC UTILITIES

With the exception of the Hawaiian Board of Water Supply, public utilities in Hawaii are privately owned. In structural organization, services rendered, and types of labor required, they are similar to mainland utilities. All utilities are under public regulation.

Gas and electricity are commonly used for cooking in urban areas, but kerosene is used extensively for household fuel in districts not yet serviced with gas and electricity. The Japanese custom of using charcoal for cooking is not uncommon in some districts. It should be noted that household fuel is needed only for cooking because of the warm and even climate.

Gas consumption has remained fairly stable on all islands except Oahu where, due to the rapid increase in the population of Honolulu, the number of meters in service rose from 29,109 in 1942 to 33,772 on January 1, 1947.

The total number of electric consumers in Honolulu rose from 54,573 in 1942 to 60,048 on January 1, 1947.

Telephones in service in Hawaii rose from 52,164 in 1942 to 61,353 in 1946, the great bulk of this service being concentrated in Honolulu. As of January 1, 1947, there were 43,959 telephones in Honolulu and 6,386 in other parts of Oahu. Communications are provided between the various islands and between Hawaii and other parts of the world (including radio telephone service with harbor craft and with ships at sea). The Army, Navy, and Marine Corps also maintain large installations. Interisland commercial radio-telephone messages rose from 48,106 in 1942 to 153,803 in 1946. Trans-Pacific commercial radio telephone messages rose from 55,852 in 1942 to 92,834 in 1946.

Taken as a whole, public utilities rank third among island enterprises, being exceeded in value and annual revenue only by the sugar and pineapple industries.

Because there are so few concerns (in some cases a single public utility services the entire Territory), it was not possible to break down the statistical data into analyses of the wage structures of each industry without revealing the identity of specific firms, which is contrary to policy governing the publication of wage data. It was necessary, therefore, to treat public utilities as a whole.

Because of the size of individual establishments and the comparatively large proportion of skilled labor employed, public utilities play an important role in establishing standards affecting labor. Occupational requirements of the various types of utility concerns differ substantially, however, and no attempt has been made to present detailed wage data for the group.

Eleven privately owned public utility firms, including four electric companies, two gas companies, one telephone system, three radio communication and one cable communication firms, were included in the study. With an aggregate pay roll of nearly 3,500 in April

1947, this group accounts for over 95 percent of the employment in privately owned public utilities in the Territory. Although the five major islands are represented in the study, it should be noted that more than 80 percent of the total force were employed in Honolulu and another 10 percent were located in the second largest city, Hilo.

Women, accounting for less than one-fourth of the labor force, were proportionately much more numerous in the communication industries (telephone, radio, and cable) than in the electric and gas utilities, where they were employed almost exclusively in office work. Eighty percent of the women in the public utility group were concentrated in the five communication firms where, in addition to being employed in office jobs, they were engaged in substantial numbers as telephone operators, service representatives, automatic-printer operators, and messengers.

With the exception of one electric utility concern that employed only a few workers, the public utilities included in the study operated under terms of written agreements with labor unions. In terms of the number of firms under contract and the proportion of employees affected, the major union in this industry group was the International Brotherhood of Electrical Workers of America, an A. F. of L. affiliate. Employees of the radio and cable communication companies, however, are represented by the American Communications Association, a CIO affiliate. Although executives, supervisory employees (other than working foremen), confidential employees, and part-time or extra employees, were typically the only groups excluded from contract coverage, several contracts excluded all clerical and office personnel.

The public utilities in Hawaii, as on the mainland, have formalized their rate structure by establishing a rate, or rate range, for each occupation, such wage scales being included in union contracts.<sup>1</sup> Company policies differed in the matter of advancement of individual employees within a rate range, some employers reporting that satisfactory progress must be shown by the individual before a reclassification is authorized, while others reported that advancement was based entirely upon length of service in an occupation. Minimum rates paid to unskilled men workers ranged from 70 cents to 88 cents per hour among the five largest utilities, the only firms reporting employment in this category.<sup>2</sup> Union agreements covering employees of the radio and cable communication companies provided for differentials over mainland wage scales. The amount and form of the differential and groups affected varied, however, from firm to firm, one contract calling for a general 10 percent allowance and limiting the payment of an additional 10 percent differential to employees hired on the mainland (paid when contract fulfilled), whereas all employees (except messengers) of another firm received 18 percent above base pay each pay period. Three utility firms that had paid monthly cost-of-living bonuses or year-end bonuses during the early war years reported the incorporation of such bonuses into the rate schedule. Only 2 of the 11 firms included in the study paid an annual bonus in 1946 and such payments, amounting to 10 percent of each individual's annual earnings, were limited to salaried personnel.

<sup>1</sup> An exception was found in the case of a small electric utility firm (nonunion) that paid personalized rates.

<sup>2</sup> The reported hourly rates were: 70 (2 establishments), 80, 84, and 88 cents.

A majority of the utility employees were scheduled to work 40 hours per week at the time of the study. A shorter workweek was the rule among the radio and cable communication firms, reflected, in turn, in more liberal overtime pay provisions. Two of these firms paid time and one-half rates for work over 7½ hours per day or 37½ hours per week, while most of the other utility firms paid such rates for time worked in excess of 8 hours per day or 40 hours per week.

Public utilities operate on a 24-hour basis, requiring the employment of workers in certain jobs on second and third shifts. While most of the firms reported a practice of rotating the employees on shift operations, several small concerns paid additional amounts for such work instead of rotating the employees.<sup>3</sup>

Formal provisions for granting paid vacation leave were reported by all firms. With minor exceptions, the general practice provided 2 weeks' vacation upon the completion of a year of service. Six firms granted longer vacations to employees with longer service records, with two of them providing for 4 weeks' vacation to employees who had 10 years or more of service.

All except two of the firms had a formal policy for granting paid sick leave, the union agreements typically providing for a minimum of 2 weeks for employees who had completed a year of service with greater amounts of leave indicated for employees with longer service. In many cases, a waiting period of 3 days was specified.

A great majority of public utility employees had received wage increases during the 12-month period preceding the study, amounting to 14 cents per hour to all employees in the case of one large firm, and from 10 to 15 percent (according to classification) in another company.

#### TRUCKING

Trucking, transfer, and drayage services, provided on a common-carrier or contract basis, play an important role in the movement of products and goods within the Territory. A decline in railroading operations on the major islands has contributed to the growth in the number of trucking concerns and to total employment engaged in trucking activities. There are over a hundred trucking establishments in which one or more workers were employed. Commercial trucking is also an ancillary activity of several of the railroad and stevedoring companies; one-third of all workers in commercial trucking were employed by the railroad and stevedoring companies.

The majority of the trucking concerns are very small and engage in general hauling of household or commercial goods. The larger firms do a considerable amount of trucking on contract (mail or freight) and, in some cases, provide packing, shipping, and storage service. In addition, it is not uncommon for a trucking firm in Hawaii to engage in other completely unrelated business activities.

Data on hours and earnings of individual workers were obtained from 12 trucking firms, each employing 10 or more workers and accounting, as a group, for approximately 50 percent of the employ-

<sup>3</sup> One firm paid 10 percent additional to employees on second and third shifts, another credited night shift workers with an additional hour for each 6 hours worked, and a third firm paid 6½ cents additional for regular time worked between 9:55 p. m. and 8 a. m.

ment in the size group covered.<sup>4</sup> The sample included one or more establishments on each of the four major islands. Data presented in the tables relate to adult, full-time workers, exclusive of office workers, and are based upon information transcribed from representative pay rolls in March and April 1947.<sup>5</sup>

The study revealed that trucking workers, as a group, averaged \$1.05 an hour on a straight-time basis. While a few workers were found to be earning less than 80 cents an hour and, in a few instances, more than \$1.50 an hour, the rates of the majority of the workers were grouped in a 20-cent range starting at 85 cents, as indicated in table 51. The average earnings of truck drivers equaled the \$1.05 averaged by the entire work force and exceeded the average hourly earnings of truck drivers' helpers by 14 cents an hour. Rates paid to workers in these job categories varied widely within the group of establishments studied. A part of the spread in rates reflected the granting of merit increases to the more experienced workers, and, in the case of several firms, a policy of paying higher rates to workers handling heavy trucking equipment. In most of the establishments included in the study, the highest paid truck drivers received from 15 to 20 cents an hour more than the lowest rate paid in the job in the same establishment. The intraestablishment range of rates paid in the helper classification generally amounted to 5 or 10 cents an hour. Four-fifths of the workers in the industry are employed either as drivers or helpers. The remainder of the workers are employed in a variety of jobs, the ones most commonly found being dispatchers, automotive mechanics, packers, and warehousemen.

TABLE 51.—Percentage distribution of workers<sup>1</sup> in the trucking industry in the Territory of Hawaii by straight-time average hourly earnings,<sup>2</sup> March–April 1947

Average hourly earnings <sup>2</sup>	All workers <sup>3</sup>	Truck drivers	Truck drivers' helpers
Under 80.0 cents.....	1.5	0.6	3.4
80.0 to 84.9 cents.....	5.9	1.3	14.4
85.0 to 89.9 cents.....	10.3	9.5	16.9
90.0 to 94.9 cents.....	11.5	19.6	6.8
95.0 to 99.9 cents.....	14.7	-----	36.5
100.0 to 104.9 cents.....	17.3	17.7	20.4
105.0 to 109.9 cents.....	4.1	6.3	-----
110.0 to 114.9 cents.....	7.1	13.3	.8
115.0 to 119.9 cents.....	8.3	15.2	.8
120.0 to 124.9 cents.....	8.6	10.8	-----
125.0 to 129.9 cents.....	2.4	3.2	-----
130.0 to 139.9 cents.....	2.1	1.9	-----
140.0 to 149.9 cents.....	3.8	-----	-----
150.0 cents and over.....	2.4	.6	-----
<b>Total.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Total number of workers.....	339	158	118
Average hourly earnings <sup>2</sup> .....	\$1.05	\$1.05	\$0.91

<sup>1</sup> Excludes office workers, minors, and part-time workers. Women were found only in office jobs.

<sup>2</sup> Excludes premium pay for overtime and night work.

<sup>3</sup> Includes data for occupations not shown separately.

<sup>4</sup> Establishments employing fewer than 10 workers were not covered in the study; the aggregate employment in such establishments is estimated to amount to less than one-fourth of the employment in the entire industry.

<sup>5</sup> Only three boys under 18 years of age were found to be employed in the establishments studied. Part-time workers were too few in number to justify separate presentation of data. Data for office workers are included in a separate section of this report. (See ch. 19.)

The racial composition of the labor force and average hourly earnings by race are presented in table 52. Japanese constituted the largest single racial group in the industry, with Caucasians, Filipinos, and Hawaiians (including Part-Hawaiians) ranking in the order named. Filipinos, who were largely employed as helpers, constituted the lowest earnings group.

TABLE 52.—*Straight-time average hourly earnings<sup>1</sup> of workers<sup>2</sup> in the trucking industry in the territory of Hawaii by race, March–April 1947*

Racial group	Number of workers	Average hourly earnings <sup>1</sup>
All races.....	339	\$1.05
Japanese.....	105	1.12
Caucasians.....	81	1.04
Filipinos.....	69	.98
Hawaiians and Part-Hawaiians.....	59	1.00
All others.....	25	1.02

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> Excludes office workers, minors and part-time workers; women were found only in office jobs.

Five of the twelve firms operated on the basis of a 44-hour, 5½-day week, three firms reported a 40-hour schedule, and the remainder indicated the normal work hours to be longer than 44 hours. Time and one-half the regular rates was paid for overtime work by all firms, six of the firms indicating a policy of paying the overtime rates for time worked in excess of 8 hours a day or 40 hours a week, the other six firms stating that overtime rates applied only if the weekly hours (40) were exceeded. The more liberal provisions applied to workers in the larger establishments. One of the firms paid time and one-half rates for all work performed on Saturdays, regardless of the hours worked up to that day. Similar provisions applied to Sunday work in the case of three firms, with another firm reporting that double time was paid for work on that day. With the exception of three of the smaller firms that paid regular rates for work on holidays, it was found that workers were paid time and one-half rates for work performed on stated holidays (generally 8 to 10 in number). The few salaried workers in the industry were generally paid for holidays on which no work was done. Although the workers included in the study averaged only 38.5 hours of work during the period studied, a sufficient amount of time was worked at overtime rates within the group to bring the gross average hourly earnings to \$1.12 an hour, or 7 cents above the straight-time hourly earnings figure. Gross weekly earnings averaged \$42.98 during the same period. Nine of the twelve firms paid their hourly rated employees each week. More than half of the hourly rated workers included in the study, however, were employed by three firms that paid all of their employees on a once-a-month basis.

The five largest trucking firms, accounting for three-fourths of the workers included in the study, were operating under terms of written agreements with labor unions in the early part of 1947. Two unions, the International Longshoremen's and Warehousemen's Union (CIO) and the Teamsters, Chauffeurs, Warehousemen, and Helpers Union (A. F. of L.) had contracts with firms in the industry.

Paid vacations were granted to eligible workers by all except the three smallest trucking concerns visited. The minimum practice (applying to outside workers as well as office workers) provided a 1-week vacation upon the completion of a year of service with the employer, with an increase, in the case of the three largest firms, to 2 weeks for those who had 2 years or more of service. Four establishments reported a policy of granting a 2-week paid vacation to all employees with a year of service. Four of the five union establishments and two of the nonunion establishments reported a formal policy of granting paid sick leave to their employees. The total amount of such leave available in any one year ranged from 6 to 10 days. Eligibility for paid sick leave was generally limited to workers who had completed a year of service.

#### STEVEDORING

The importance of maintaining a continuous two-way flow of goods between the mainland and Hawaii sets the stevedoring industry apart in any examination of labor standards and labor-management relations in the Territory. The industry, which employed approximately 2,500 workers in March 1947, is concentrated in Honolulu, with minor units located in the shipping ports on the other major islands.

The three largest firms (two in Honolulu, one in Hilo) employ approximately four-fifths of the workers in the industry and are the only stevedoring companies that can normally provide stevedoring work on a full-time basis. Stevedoring operations at other ports are generally intermittent in nature, and as the firms handling such work are engaged in other activities as well, the stevedoring work force is offered supplementary hours of work at other jobs,<sup>6</sup> classified as "nonsteamer day work." The rates paid for such work were found to be from 40 to 50 cents per hour less than the basic rate paid to the same workers for stevedoring. Whereas six firms were included in the study, the collection of information relating to hours and earnings of individual employees, summarized in this report, was limited to the three largest companies<sup>7</sup> comprising 80 percent of total employment.

The racial composition of the labor force in this industry has changed greatly in the last few years. Filipinos, at the time of the study, greatly outnumbered other racial groups, as shown in table 53.

<sup>6</sup> A composite listing of the more important activities engaged in by three such firms includes (in addition to stevedoring) the operation of bulk sugar warehouses; bus lines; planing mills and lumber yards; a freight railroad; trucking service; and the merchandising (wholesale) of building materials, mill machinery and supplies, and groceries. Stevedoring was the chief source of revenue in the case of only one of these firms.

<sup>7</sup> Two of the three smaller firms visited had a 10-cent per hour lower rate for stevedoring jobs but provided perquisites (housing and water, and fuel in one case) to their regular employees. Employees who furnished their own housing received compensation at the rate of 7 cents per hour for married employees and 5 cents per hour for single persons. The basic rates paid to stevedoring labor by the third company were identical with those paid in the major ports.

TABLE 53.—Percentage distribution of men workers in the stevedoring industry in the Territory of Hawaii by racial origin, 1939 and 1947

Racial group	Percentage of total labor force	
	1939 <sup>1</sup>	1947
Filipinos.....	10.3	48.5
Japanese.....	35.4	18.7
Hawaiians and part-Hawaiians.....	33.8	17.5
Caucasians.....	13.6	8.3
All others.....	6.9	7.0

<sup>1</sup> U. S. Bureau of Labor Statistics, Bulletin No. 687, Labor in the Territory of Hawaii, 1939.

Increased employment opportunities in this industry brought about by the war, together with the loss of large numbers of workers (especially Hawaiians) to other activities, apparently caused many Filipinos employed in plantation industries to seek jobs in the industry.

The stevedoring industry operates under terms of union agreements with the International Longshoremen's and Warehousemen's Union, a CIO affiliate. The first contracts with the three major companies were obtained by the union in June 1941 and a basic rate of 70 cents per hour was established for stevedores, representing an increase of 10 cents per hour (retroactive to May 1941) and the elimination of a lower wage schedule maintained by one of these firms. Increases of 5 cents in 1942, 15 cents in 1943, 10 cents in 1945, and 30 cents in November 1946 brought the basic rate paid to stevedores, accounting for two-thirds of the labor force in the industry, to \$1.30 per hour, the effective rate at the time of the study. Adjustments made in rates paid in other key jobs during this period generally followed the pattern shown for stevedores.

The union agreement provides for the maintenance of a basic work force and (in order to reflect the day-to-day variations in the size of the work force required by individual employers) for periodic adjustments by the employer so as to permit a minimum average of approximately 40 converted hours of work opportunity per week for basic employees during the ensuing 4-week period.<sup>8</sup> Employees not classified as basic employees are designated as permit employees and work opportunity is offered to available men in this category after all basic men called on a particular day have been assigned.

The basic job rates shown in table 54 are paid by all of the employers with the exception of those that also provide perquisites. Gross average hourly earnings, ranging from 24 to 34 cents per hour above the base rates among the selected jobs shown, reflect the payment of overtime rates, emergency hours' rates, and penalty cargo rates.<sup>9</sup> The last-named item accounted for only a minor part of the

<sup>8</sup> The agreement provides that an equal distribution of work opportunity shall be made on a gang basis, and that the employer shall provide the union data (at 4-week intervals) showing the work opportunity provided to each gang in each calendar week.

<sup>9</sup> The union contract defines overtime work (to be paid for at one and one-half times the straight-time rate) as all work performed in excess of a specified 8 hours, Monday to Friday, inclusive; all work performed on Saturday and Sunday; and all work performed on 12 holidays (New Year's Day, Roosevelt's Birthday, Lincoln's Birthday, Memorial Day, Kamehameha Day, Washington's Birthday, Independence Day, Labor Day, Armistice Day, Thanksgiving Day, Christmas Day, and VJ-day). One and one-half times the prevailing rate (regular or overtime) is to be paid for all continuous hours in excess of 12 continuous hours and for work when an employee is recalled to the job before an 8-hour rest period (following the emergency hours) has elapsed. This rate is also to be paid for all time work in excess of 5 hours without being given an opportunity to eat. Employees working certain types of cargoes or working cargoes under certain conditions as specified in the contract are to receive special (penalty cargo) rates.

additional earnings, one of the larger firms, for example, reporting that the premium for work on penalty cargoes typically amounted to less than 1 percent of the stevedoring pay roll.

TABLE 54.—Average hourly earnings, weekly hours and gross weekly earnings of men workers in the stevedoring industry in the Territory of Hawaii, by occupation, February-March 1947

Occupation	Number of workers	Average basic rates	Average gross hourly earnings	Average weekly hours	Average gross weekly earnings
All workers <sup>1</sup> .....	1,791	\$1.35	\$1.63	47.3	\$76.94
Stevedores, basic men.....	1,135	1.30	1.58	46.1	73.03
Stevedores, permit men.....	57	1.30	1.54	32.6	50.25
Machine operators.....	126	1.40	1.70	47.5	80.77
Winch drivers and hatch tenders.....	141	1.50	1.81	47.8	86.48
Gang foremen.....	78	1.55	1.89	48.4	91.60

<sup>1</sup> Includes occupations (other than office) not shown separately.

The gross weekly earnings in the industry averaged \$76.94 at the time of the study (table 55). In striking contrast to the results of a similar study made in May 1939 when a majority of the employees earned less than \$30 per week and only 2.9 percent earned \$50 or more, it was found that 93.4 percent were currently earning at least \$50. The wide range of earnings found within individual jobs reflects individual differences in offered and accepted work opportunity, and variations in the proportion of hours worked by individuals at over-time rates, penalty cargo rates and other special rates of pay.<sup>10</sup>

TABLE 55.—Percentage distribution of men workers in the stevedoring industry in the Territory of Hawaii by gross weekly earnings, by occupation, February-March 1947.

Item	May 1939		February-March 1947				
	All workers	All workers <sup>1</sup>	Stevedores, basic	Stevedores, permit men	Machine operators	Winch drivers and hatch tenders	Gang foremen
Average weekly earnings.....	\$29.46	\$76.94	\$73.03	\$50.25	\$80.77	\$86.48	\$91.60
Total workers:							
Number.....	1,058	1,791	1,135	57	126	141	78
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Weekly earnings:							
Under \$30.....	52.4	2.2	2.4	8.8	-----	0.7	2.6
\$30 and under \$40.....	35.3	1.7	1.0	15.8	-----	-----	-----
\$40 and under \$50.....	9.4	2.7	2.7	17.4	1.6	7	-----
\$50 and under \$60.....	<sup>2</sup> 2.9	8.7	8.9	43.8	4.8	3.5	3.8
\$60 and under \$70.....	-----	15.7	19.9	5.3	14.3	5.7	2.6
\$70 and under \$80.....	-----	31.9	40.1	5.3	26.9	21.3	16.7
\$80 and under \$90.....	-----	17.0	13.7	1.8	29.3	29.8	15.4
\$90 and under \$100.....	-----	9.1	5.5	-----	12.7	20.6	30.7
\$100 and under \$110.....	-----	6.0	4.8	1.8	5.6	9.9	9.0
\$110 and over.....	-----	5.0	1.0	-----	4.8	7.8	19.2

<sup>1</sup> Includes occupations (other than office) not shown separately.

<sup>2</sup> \$50 and over.

<sup>10</sup> One firm employed stevedoring gangs on a two-shift basis with shift rotation practiced, each gang working the day shift for 3 weeks and the night shift for 1 week; hours and earnings data covering a typical 4-week period were obtained but are properly represented in the group averages.



A majority of the employees worked 48 hours per week or more during the period studied. As shown in table 56, gang foremen, winch drivers and hatch tenders, and machine operators averaged more hours than did the stevedores. Despite the efforts of management and labor to equalize work opportunity in the industry, considerable variation was found in hours worked by individual employees and gangs.

Paid vacations were provided by each firm to each employee who qualified on the basis of having worked 85 percent of the hours available to him during the 12-month period preceding his vacation accrual date, but not less than 1,800 converted hours during such period. Qualified employees with 1 year of service were entitled to a 1-week vacation with pay and those with 2 years or more of service were granted vacations of 2 weeks. Vacation pay was computed on the basis of 40 hours per week at the employee's straight-time rate.

Two of the three firms included in the study maintained a policy of paid sick leave for stevedoring gangs and shop workers amounting to 56 hours of credit each year, with an accumulation feature for unused portions. Payments are made on the basis of 4 hours at the employee's basic rate for each day of disability beginning with the eighth day.

TABLE 56.—Percentage distribution of men workers in the stevedoring industry in the Territory of Hawaii by weekly hours, by occupation, February–March 1947

Item	All workers <sup>1</sup>	Stevedores, basic	Stevedores, permit men	Machine operators	Winch drivers and hatch tenders	Gang foremen
Average weekly hours worked.....	47.3	46.1	32.6	47.5	47.8	48.4
Total workers:						
Number.....	1,791	1,135	57	126	141	78
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
Hours worked:						
Under 30 hours.....	4.8	4.2	36.8	0.8	1.4	2.6
Over 30 and under 40 hours.....	9.7	10.6	29.8	11.9	5.7	6.4
40 hours.....	3.7	3.3	21.1	4.8	3.5	2.6
Over 40 and under 48 hours.....	31.7	37.5	7.0	28.5	29.8	29.5
48 hours.....	7.0	6.6	1.8	6.3	9.9	6.4
Over 48 and under 60 hours.....	34.0	30.8	3.5	42.9	44.7	42.2
60 hours and over.....	9.1	7.0	.....	4.8	5.0	10.3

<sup>1</sup> Includes occupations (other than office) not shown separately.

## CHAPTER 16. MANUFACTURES

### MISCELLANEOUS MANUFACTURING

It has been estimated that manufacturing operations exclusive of raw-sugar production and pineapple canning provided employment to 7,550 persons in January 1946. Of these, more than 40 percent were concentrated in the apparel, baking, and printing industries. The remainder, accounting for only 2½ percent of the total labor force in Hawaii, were distributed among various other manufacturing industries. From the standpoint of employment, the most important of these miscellaneous manufactures were: (1) Can production, (2) heavy machinery and equipment, (3) malt liquors, (4) canning of tuna fish, (5) nonalcoholic beverages, (6) structural insulation board, (7) fertilizers, (8) compressed gases, (9) sash and door and other planing-mill products, and (10) candy manufacture. This list emphasizes the fundamental importance of the sugar and pineapple industries in the Hawaiian economy. Most of these miscellaneous manufactures are heavily dependent on the plantation industries in one way or another. Can production exists because of the pineapple canneries; the heavy machinery and equipment concerns are primarily for servicing plantations; structural insulation board is made of bagasse, a byproduct of the sugar mills; fertilizer processing and distribution is entirely dependent upon the plantations; and candy manufacture has developed in Hawaii because it is a sugar-producing area. There are numerous small manufactures not included in the above list. Many of these, too, are dependent on the plantation industries.

Twenty-six establishments, all except seven of which were located in Honolulu, were visited in the study.<sup>1</sup> Of the aggregate employment of over 2,000 workers in these establishments less than 10 percent were women and the majority of these were employed in office work. The majority of the production employees in shops producing hand-block printed linen, etched glass products, and paper boxes, however, were women.

Two-thirds of the aggregate employment is concentrated in 10 establishments that operated under terms of agreements with labor unions. Unionization in manufacturing, as in the plantation industries, is of recent origin, the first contracts in the majority of union establishments having been signed in the 1945-46 period.

Minimum entrance rates for plant workers in this group of manufacturing plants ranged, as indicated in table 57, from a low of 60

<sup>1</sup> The major products of these establishments were: Cans, compressed gases, etched glass products, fertilizer, hand-block printed linens and scarfs, heavy machinery and equipment, industrial chemicals, malt liquors, mattresses and box springs, meat products, nonalcoholic beverages, paper boxes, sash and door products, structural insulation board, venetian blinds, wood furniture, and welding and machine shop work. A single firm employs all, or nearly all, of the workers engaged in several of these fields of production. It is therefore not possible to present as detailed a wage report for workers in this group as for other industries. On the other hand, interindustry differences in the wage structure, primarily reflecting differences in occupational requirements, precluded the consolidation of the figures for such a heterogeneous group of producers.

cents for men and women to highs of \$1.10 for men laborers and 90 cents for unskilled women employees. The lowest rates were reported by the smaller, nonunion shops.

TABLE 57.—*Distribution of minimum entrance rates for plant workers in miscellaneous manufacturing, Territory of Hawaii, April 1947*

Sex	Number of establishments with minimum of—											No established minimum <sup>1</sup>	
	60 cents	72 cents	75 cents	77 cents	79 cents	80 cents	85 cents	90 cents	95 cents	96 cents	\$1		\$1.05
Men.....	1	2	1	1	3	2	6	2	1	1	2	1	3
Women.....	4	3	1	6	1	1	1	1	1	1	1	1	10

<sup>1</sup> Includes establishments that did not employ workers in group indicated.

A 40-hour 5-day workweek was reported by two-thirds of the establishments surveyed, and longer hours of 44 and 48 were found only in the smaller shops. Eleven plants had a policy of paying time and one-half for time worked in excess of 8 hours per day or 40 hours per week, while an equal number limited such payment to hours in excess of 40 per week. A few of the establishments with scheduled workweeks of 44 or 48 hours reported a policy of paying overtime rates for hours in excess of 8 per day or the normal scheduled weekly hours. Nearly all of the plant workers were paid on an hourly-rate basis and, for the most part, received their pay weekly, whereas office personnel were salaried and generally were on a twice-a-month payment basis. With the exception of one large establishment that employed a few wrappers on a piece-work basis, incentive systems of wage payment were not employed. Year-end or Christmas bonuses, on the other hand, were paid in 1946 by 15 of the 26 establishments contacted. Ranging in amount from gifts of \$10 to a high of 25 percent of the individual employee's gross annual earnings, these annual payments were made nearly exclusively in small nonunion establishments. Several of the more important employers reported the incorporation of such annual payments, as well as quarterly or monthly bonuses, into the basic wage scale at the time of signing an agreement with a union.

Formal provisions for granting paid vacation leave were reported by all except two of the establishments. Applying to plant as well as office employees, the minimum practice provided 1 week's vacation upon the completion of a year of service with the employer, with an increase, in the case of nine firms, to 2 weeks for those who had 2 years or more of service. Five establishments reported a policy of granting 2 weeks' paid vacation to all employees with a year of service.

Less than half of the establishments had a formal policy for granting paid sick leave. Union agreements in these industries typically provided for a minimum of 1 week and more commonly 2 weeks of paid sick leave. Although all time lost to illness, up to the yearly limit, was to be paid for according to the contracts, several specified that such payment would be made only for illness beyond 3 days.

General wage increases, together with the incorporation of wartime monthly and quarterly bonuses into the basic wage structure, were

quite common during the period from VJ-day to the time of the study. Shop workers in union plants received, on the average, greater wage increases than did employees in the nonunion plants. Although individual plants granted increases as high as 15 percent in one case and 18 cents per hour in another, the most common amount noted was 10 cents per hour.

#### APPAREL MANUFACTURING AND CUSTOM TAILORING

Apparel production in Hawaii, as on the mainland, is carried on in two general types of establishments, differing from each other in methods of manufacture, distribution, type of labor employed, and method of wage payment.<sup>3</sup> Apparel plants produce ready-to-wear garments on a factory basis, and all or most of the output is generally sold through apparel and department stores. The more important ready-to-wear items produced in the Territory are: Aloha shirts, beach wear, and other sportswear for men, women, and children; women's blouses, house coats, gowns, and children's play suits; men's work shirts and trousers; and Navy whites and dungarees. In contrast, custom tailors make, and sell at retail, men's and women's clothing to individual order. Suits and trousers for men, women's suits, uniforms (Army, Navy, air line, school) are among the major types of apparel produced in custom-tailor shops. Some of the tailor shops also make Aloha shirts and slack suits on a made-to-order basis, or sell other apparel items and yard goods.

Although tailor shops outnumber apparel plants by at least 3 to 1, the total employment in the latter, estimated to exceed 500 workers at the time of the study, was about 50 percent greater than in custom tailoring. Less than one-third of the employers in custom tailoring, as compared with three-fourths of the apparel factories, employed five or more workers. The manufacture of ready-to-wear apparel is carried on, for the most part, under a production system that permits a higher degree of work specialization than is possible in the custom shops. Although a few men are employed in apparel plants, generally as cutters or maintenance men, women perform the specialized sewing and finishing operations and account, as a group, for about 95 percent of the work force. Workers in tailor shops generally make the entire garment or a complete section of a garment, and men as well as women are engaged in such work.

Because of the greater standardization of articles produced, piece-work systems are commonly employed in apparel plants, whereas time rates are the general rule in custom shops. Neither of these industries has been unionized.

Hours and earnings data for a representative pay period during March or April 1947 were obtained from 12 apparel-manufacturing firms and 11 custom-tailor shops. Representing a 50-percent sample (of establishments employing five or more workers) in each of these industries, the coverage included establishments in Hilo as well as in Honolulu, where the employment in these industries is concentrated. The survey findings are presented separately for apparel manufacturing and custom tailoring. Data for the latter industry, one of the

<sup>3</sup> Dressmaking carried on as a home industry is not included in the industries studied. Home workers were found to be employed by several of the apparel manufacturing concerns and custom tailors included in the study but were omitted from data presented.

smaller segments of the retail-trade group, are discussed in this section of the report because the major part of the work force is engaged in the production rather than the sale of garments. While minors, part-time workers, and office workers were included in the study, data for these groups have been omitted from the tables.<sup>3</sup>

### *Apparel manufacturing*

Workers in apparel plants earned 77 cents an hour, on the average, during March–April 1947. Straight-time average hourly earnings of individual workers, in the group of 269 women and 13 men employed in the 12 factories, ranged from 50 cents to more than \$1.40 an hour. As shown in table 58, nearly two-thirds of the workers fell in the range of 55 to 79.9 cents an hour. Although differences in the general level of wage rates paid in the various occupations accounted for part of the dispersion of individual rates, the range of individual earnings in several of the key jobs in the industry nearly equaled the range for the group as a whole.

TABLE 58.—Percentage distribution of workers<sup>1</sup> in apparel manufacturing industry in the Territory of Hawaii by straight-time average hourly earnings,<sup>2</sup> March–April 1947

Average hourly earnings <sup>2</sup>	All workers	Average hourly earnings <sup>2</sup>	All workers
50 to 54.9 cents.....	2.1	100 to 109.9 cents.....	4.6
55 to 59.9 cents.....	16.6	110 to 119.9 cents.....	3.5
60 to 64.9 cents.....	12.4	120 to 129.9 cents.....	1.1
65 to 69.9 cents.....	14.5	130 to 139.9 cents.....	1.8
70 to 74.9 cents.....	9.6	140 cents and over.....	3.2
75 to 79.9 cents.....	12.4		
80 to 84.9 cents.....	5.0	Total.....	100.0
85 to 89.9 cents.....	5.7		
90 to 94.9 cents.....	5.7	Total number of workers.....	282
95 to 99.9 cents.....	1.8	Average hourly earnings <sup>2</sup> .....	\$0.77

<sup>1</sup> Excludes office workers, minors, and part-time workers.

<sup>2</sup> Excludes premium pay for overtime and night work.

Average hourly earnings are presented in table 59 for a group of key jobs in the industry. Occupational earnings among women workers ranged from 67 cents an hour, averaged by buttonhole-machine operators, to \$1.07 an hour, averaged by foreladies. Sewing-machine operators, accounting for 158 of the 269 women employed in the factories visited, averaged 73 cents an hour. Pressers and trimmers averaged 2 cents an hour less than the sewing-machine operator group and 10 cents an hour less than garment finishers. With the exception of the forelady category, the highest rates among women workers were paid to cutters, who averaged 92 cents an hour. Men cutters were paid higher rates than those paid to women in this occupation. With a single exception, men and women cutters were not employed in the same establishments. The degree of variation in earnings found in these selected jobs can be illustrated with a distribution of sewing-machine operators by average hourly earnings groups. The operators were distributed as follows: 50–59 cents, 42 workers; 60–69 cents, 41 workers; 70–79 cents, 33 workers; 80–89 cents, 15 workers; 90–99 cents, 9 workers; and \$1 and over, 18 workers.

<sup>3</sup> Only 2 minors were found to be employed in each of the 2 industries; adult part-time workers on the pay rolls of the firms visited totaled 23 (16 men, 7 women) in apparel manufacture and 4 (1 man, 3 women) in custom-tailors' shops; data for the few office workers employed in the industry have been grouped with other industries in a special section on office workers in Hawaii. (See ch. 19.)

Of the 158 workers in the occupation, 112 were paid on a piecework basis and, as a group, averaged 75 cents an hour. Sewing-machine operators who were paid time rates averaged 67 cents an hour. Nearly all of the workers in the other occupations were paid time rates.

TABLE 59.—*Straight-time average hourly earnings<sup>1</sup> in selected occupations<sup>2</sup> in the apparel-manufacturing industry in the Territory of Hawaii, March–April 1947*

Occupation and sex	Number of workers	Average hourly earnings <sup>1</sup>
Men: Cutters.....	8	\$1.44
Women:		
Buttonhole-machine operators.....	15	.67
Cutters.....	5	.92
Finishers.....	7	.81
Foreladies.....	9	1.07
Pressers.....	15	.71
Sewing-machine operators.....	158	.73
Trimmers.....	9	.71

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> Excludes minors and part-time workers.

In the matter of frequency of wage payment, the firms were about equally divided in number between those that paid their employees each week and those that paid on a 2-week or twice-a-month basis. Scheduled hours of work per week ranged from 40 to 48 among the firms visited. With the exception of three firms whose officials indicated that no overtime was worked, overtime was paid for at one and one-half times the regular rates. A majority of the workers included in the study were employed by firms that paid overtime rates for all work in excess of 40 hours in a week. The 282 workers in the study averaged exactly 40 hours of work during the March–April period. Hours worked by some individuals exceeded 40, however, and a sufficient number of hours were worked at overtime rates to bring the gross average hourly earnings to 78 cents, 1 cent above the straight-time average for the group. Gross weekly earnings averaged \$31.24 a week.

Several of the firms granted Christmas or year-end bonuses to their employees, the amounts paid out in 1946 ranging from gifts of \$10 to each worker, reported by one employer, to an additional month's pay granted by one of the larger firms. Nine of the twelve firms reported a formal policy of granting paid vacations to their workers. The most common practice, reported by six employers, provided a 1-week vacation with pay to all employees who had completed a year of service. One of these firms allowed 2 weeks of vacation for those who had five or more years of service. Two firms provided 2 weeks with pay to employees with a year of service and another firm reported a policy of granting 2 weeks to each worker, regardless of her period of service. Formal plans for granting paid sick leave to factory workers were reported by only two firms.

An examination of the racial composition of the work force in the group of apparel plants included in the study showed that 88 percent of the workers were Japanese and the second largest group, the Chinese, accounted for 8 percent of the total.

*Custom tailoring*

The study revealed that workers in custom tailor shops averaged 83 cents an hour in the March-April period of 1947. Of the 126 adult full-time workers employed in the 11 shops included in the survey, 36 were men and 90 were women. Average hourly earnings, on a straight-time basis, amounted to \$1.07 in the group of men and 72 cents in the case of women workers. As indicated in the distribution of workers by straight-time average hourly earnings presented in table 60, fully 30 percent of the workers earned less than 60 cents an hour. Nearly half of these workers were apprentices, employed in the larger shops, and only one man was found in this earnings group. Most of the men employed as cutters, coat makers, and garment finishers earned more than a dollar an hour. Women, whose employment in these occupations was found to equal that of men, were generally paid lower rates. It should be noted that men and women were seldom found to be employed in the same job in the same establishment.

TABLE 60.—*Percentage distribution of workers<sup>1</sup> in custom tailor shops in the Territory of Hawaii by straight-time average hourly earnings,<sup>2</sup> March-April 1947*

Average hourly earnings <sup>2</sup>	All workers	Average hourly earnings <sup>2</sup>	All workers
Under 40.0 cents.....	4.0	95.0 to 99.9 cents.....	2.4
40.0 to 44.9 cents.....	9.5	100.0 to 109.9 cents.....	11.0
45.0 to 49.9 cents.....	1.6	110.0 to 119.9 cents.....	3.2
50.0 to 54.9 cents.....	2.4	120.0 to 129.9 cents.....	5.6
55.0 to 59.9 cents.....	12.6	130.0 to 139.9 cents.....	3.2
60.0 to 64.9 cents.....	4.8	140.0 cents and over.....	4.0
65.0 to 69.9 cents.....	7.8		
70.0 to 74.9 cents.....	9.5	Total.....	100.0
75.0 to 79.9 cents.....	5.6		
80.0 to 84.9 cents.....	3.2	Total number of workers.....	126
85.0 to 89.9 cents.....	4.8	Average hourly earnings <sup>2</sup> .....	\$0.83
90.0 to 94.9 cents.....	4.8		

<sup>1</sup> Excludes office workers, minors, and part-time workers.

<sup>2</sup> Excludes premium pay for overtime and night work.

A few workers in two of the shops were paid on a piecework basis. The remainder of the workers in the group studied were about equally divided into three methods-of-pay groups, namely, monthly salaried, weekly salaried, and hourly rated. Most of the firms paid their workers either on a biweekly or monthly basis. Seven employers reported the scheduled hours of work to be 48 per week, two shops operated on a 44-hour week, and the others indicated shorter work-weeks. Overtime was paid for at one and one-half the regular rates by the eight employers whose policies did not prohibit overtime work. Overtime rates generally applied to time worked in excess of 48 hours per week. Shops scheduling 44 or fewer hours of work, however, paid overtime rates for time worked in excess of the scheduled hours. A negligible amount of time was worked at overtime rates during the selected period. Average weekly hours worked amounted to 41.4 hours for the group, with men averaging 45.7 hours and women averaging 39.7 hours per week. Gross average weekly earnings during the same period amounted to \$34.60 for all workers combined, \$49.01 for men, and \$28.83 for women.

Nonproduction bonuses, amounting to 10 percent of each individual's weekly earnings, were paid by two of the employers.<sup>3</sup> Christ-

<sup>3</sup> These bonus payments are reflected in the earnings data presented in the report.

mas or year-end bonuses were paid in 1946 by several employers. A formal policy of granting paid vacations had been adopted by seven employers, the most common practice providing a 1-week vacation to employees with a year of service. Paid sick leave was granted on a discretionary basis by several of the employers.

Filipinos constituted the largest racial group among men workers in the study, with Japanese and Chinese representing the next largest racial groups. More than two-thirds of the women in the custom tailor shops were Japanese.

#### BAKERIES

Exclusive of small bakery establishments primarily engaged in selling their products in their own retail shops, there were 17 bakery concerns employing a total of 800 workers in the Territory in 1947.<sup>4</sup> Although a few bakery products firms operate on the islands of Hawaii, Maui, and Kauai, nearly 90 percent of the employment in all bakery establishments employing 10 or more workers was concentrated in Honolulu.

Nine bakery establishments were included in a study of hours and earnings of bakery workers during the March-April period of 1947. Because a few firms employ more than half of the workers in the industry, the establishments visited were selected, and data for them tabulated, in a manner that would provide a representative 50-percent coverage in the industry. The study revealed that bakery workers as a group averaged 94 cents an hour on a straight-time basis in March-April 1947. Of the 309 full-time employees in these bakeries, 180 were men and 129 were women.<sup>5</sup> Although both men and women were found to be employed in some types of work, such as clean-up and general helper work, the basic manufacturing operations such as measuring and mixing ingredients, forming, pan greasing, and oven tending were done by men, whereas women were employed, for the most part, in packing and wrapping bakery products and in sales work in shops operated in conjunction with the bakery. These job differences would appear to explain the lower earnings of women, who averaged 77 cents an hour as compared with average earnings of \$1.04 an hour recorded for men. As shown in the distribution of bakery workers by average hourly earnings, presented in table 61, individual rates of pay ranged from under 60 cents to \$1.45 or more an hour. The disparity in the earnings position of men and women can be seen in the proportions found at each end of the earnings scale. Only 1.1 percent of the men, as compared with 24.8 percent of the women, earned less than 70 cents an hour. More than half (53.9 percent) of the men earned \$1 or more, while the number of women in this earnings group amounted to only 3.9 percent of the women employees.

<sup>4</sup> Small bakery establishments (employing less than 10 workers) have been grouped, for study purposes, with retail food stores; the greater part of the employment in such establishments is engaged in sales work rather than in the manufacture of bakery products.

<sup>5</sup> Employee groups not represented in the data shown included 15 minors (9 boys, 6 girls), 6 adult part-time workers, 35 driver-salesmen, and 24 office workers.



TABLE 61.—Percentage distribution of workers<sup>1</sup> in bakeries in the Territory of Hawaii by straight-time average hourly earnings<sup>2</sup> and sex, March-April 1947

Average hourly earnings <sup>2</sup>	All workers	Men	Women
Under 60.0 cents.....	2.3		5.4
60.0 to 64.9 cents.....	4.2		10.1
65.0 to 69.9 cents.....	4.5	1.1	9.3
70.0 to 74.9 cents.....	5.5	3.9	7.8
75.0 to 79.9 cents.....	8.7	3.3	16.3
80.0 to 84.9 cents.....	9.1	.6	20.8
85.0 to 89.9 cents.....	12.6	9.4	17.1
90.0 to 94.9 cents.....	3.6	3.3	3.9
95.0 to 99.9 cents.....	16.6	24.5	5.4
100.0 to 104.9 cents.....	7.8	11.7	2.3
105.0 to 109.9 cents.....	6.8	11.1	.8
110.0 to 114.9 cents.....	6.5	10.6	.8
115.0 to 119.9 cents.....	1.9	3.3	
120.0 to 124.9 cents.....	1.9	3.3	
125.0 to 129.9 cents.....	1.6	2.8	
130.0 to 134.9 cents.....	.3	.6	
135.0 to 139.9 cents.....	1.9	3.3	
140.0 to 144.9 cents.....	2.9	5.0	
145.0 cents and over.....	1.3	2.2	
Total.....	100.0	100.0	100.0
Total number of workers.....	309	180	129
Average hourly earnings <sup>2</sup> .....	\$0.94	\$1.04	\$0.77

<sup>1</sup> Excludes office workers, minors, part-time workers, and driver-salesmen.

<sup>2</sup> Excludes premium pay for overtime and night work.

With the exception of some of the driver-salesmen and sales clerks, bakery workers were typically paid hourly rates rather than salaries. Pay periods varied in length within the group studied, four firms paying once a month, two firms paying every 2 weeks, with the remainder reporting pay periods of 1 week, half-month, and 4 weeks. Six firms scheduled a 48-hour workweek for their employees and the others fewer hours of work per week. Time and one-half the regular rates was paid for overtime in all establishments. While three firms indicated that overtime rates applied only to time worked in excess of 48 hours in a week, establishments employing most of the workers paid the overtime rate for work over 8 hours per day or 40 hours per week. The special rates also applied to work on holidays or, as in the case of the two establishments that were operating under terms of written agreements with a labor union, to work on the day preceding holidays. This latter provision is explained by the fact that much of the production in the bakery industry is carried on during night hours and the night crew would not ordinarily work on the eve of a recognized holiday. A majority of the workers were paid overtime rates for part of their hours during the pay period studied. On the basis of 44.4 hours of work averaged by the 309 bakery workers, gross average hourly earnings amounted to 99 cents, 5 cents above the straight-time average. Men workers averaged 45.9 hours of work and averaged \$1.12 an hour with extra pay for overtime included. Women worked fewer hours, averaging 42.3 hours per week, and their gross average hourly earnings amounted to 81 cents. A comparison of straight-time and gross averages shows that men added 8 cents and women 4 cents an hour through overtime rate work. Gross weekly earnings averaged \$51.35 for men, \$34.09 for women, and \$44.14 for the two groups combined. Driver-salesmen, omitted from the groups for which hourly earnings data are shown, averaged \$62 a week. A

majority of a total of 35 driver-salesmen were employed in the larger establishments in which commissions were paid on sales.

Christmas and year-end bonuses were granted by a few firms to their employees but the proportion of the workers in the industry that received such additional payments in 1946 and the average amount granted were found to be generally less than in other industries studied. Paid vacations were provided to eligible workers, plant and office alike, by all except one of the small firms. Five employers granted 2 weeks with pay to all workers with a year or more of service. Three firms limited the vacation period to 1 week for employees with a year of service, but two of these provided longer vacations to workers who had worked two or more years with the firm. The two union establishments had a formal policy of granting paid sick leave, and such protection from pay loss was granted on a discretionary basis in several of the other bakeries.

#### PRINTING

The printing, publishing, and allied industries in Hawaii furnished employment to approximately 1,600 persons in the early part of 1947. Included in this group of industries were some 55 or more establishments engaged in one or more activities, such as publishing and printing newspapers, periodicals, or books; commercial or job printing; lithographing; and performing services for the printing trades. More than four-fifths of the establishments and nearly nine-tenths of the workers in the industry are concentrated in the city of Honolulu. The two large daily Honolulu newspapers (English) together employ more than one-half of the workers in the industry group. A number of other newspapers, published in various languages, are issued in Honolulu on a daily, triweekly, semiweekly, or weekly basis. The larger newspaper establishments, including the language papers, have job printing departments and, in some cases, publish and print periodicals and books. Job printing is also done by book and periodical publishers and printers. In addition, there are many small shops that specialize in commercial printing.

Newspapers are published in English and other languages on the islands of Hawaii, Kauai, and Maui, generally on a semiweekly or weekly basis. A small number of job-printing shops are also located on these islands. Newspaper establishments on several of the islands (including Oahu) also operate radio stations.

Hours and earnings data, together with related information, were obtained from 19 establishments in the industry group. The survey coverage represented a 50-percent sample of printing establishments employing five or more workers (smaller shops not studied). Establishments visited were selected to represent each segment of the printing industry as well as other important factors bearing on wages. Employees in the editorial, commercial, and circulation departments of newspaper establishments were excluded from the study, as were workers employed in radio stations and in other activities not related to printing. In the case of most of the establishments visited, data were obtained for a representative pay period in March 1947; in the remainder of the establishments an April 1947 pay period was selected.

Data presented in the tables relate to adult full-time workers, exclusive of office workers.<sup>6</sup>

The 400 workers (300 men, 100 women) employed in the shop departments of the establishments included in the study averaged \$1.30 an hour on a straight-time basis in March 1947. Men workers, as a group, were found to be averaging \$1.45 an hour, exceeding the 83-cent average hourly earnings of women workers by 75 percent. As indicated in the percentage distribution of workers by average hourly earnings, presented in table 62, earnings of individual workers were scattered over an unusually wide earnings range, reflecting the spread in rates between unskilled jobs and the specialized printing trades in which the workers typically acquire their training during a period of apprenticeship. Although a few men were earning less than 60 cents an hour, the total earning less than \$1 an hour amounted to only 15.4 percent (which equaled the size of the group earning \$2 or more an hour). Women, accounting for one-fourth of the workers in the labor force, were employed mainly in bindery-room work and in other jobs that required a comparatively short period of on-the-job training. Of the 100 women employed in the covered establishments, 11 earned less than 60 cents an hour, more than half (56) earned less than 85 cents an hour, and only 3 women earned more than \$1.25 an hour.

TABLE 62.—Percentage distribution of workers<sup>1</sup> in the printing industry in the Territory of Hawaii by straight-time average hourly earnings<sup>2</sup> and sex, March 1947

Average hourly earnings <sup>2</sup>	All workers	Men	Women
Under 60.0 cents	3.7	1.3	11.0
60.0 to 64.9 cents	4.8	2.0	13.0
65.0 to 69.9 cents	2.7	2.0	5.0
70.0 to 74.9 cents	3.5	2.0	8.0
75.0 to 79.9 cents	2.7	.7	9.0
80.0 to 84.9 cents	3.0	.7	10.0
85.0 to 89.9 cents	3.7	2.3	8.0
90.0 to 94.9 cents	4.3	2.7	9.0
95.0 to 99.9 cents	2.7	1.7	6.0
100.0 to 104.9 cents	9.0	9.0	9.0
105.0 to 109.9 cents	1.8	2.0	1.0
110.0 to 114.9 cents	5.0	5.3	4.0
115.0 to 119.9 cents	2.7	3.3	1.0
120.0 to 124.9 cents	3.7	4.0	3.0
125.0 to 129.9 cents	1.8	2.3	-----
130.0 to 134.9 cents	2.2	3.0	-----
135.0 to 139.9 cents	2.5	3.0	1.0
140.0 to 144.9 cents	1.3	1.7	-----
145.0 to 149.9 cents	1.8	2.0	1.0
150.0 to 159.9 cents	4.0	5.3	-----
160.0 to 169.9 cents	6.0	8.0	-----
170.0 to 179.9 cents	4.0	5.3	-----
180.0 to 189.9 cents	3.3	4.3	-----
190.0 to 199.9 cents	8.0	10.7	-----
200.0 to 209.9 cents	8.3	10.7	1.0
210.0 cents and over	3.5	4.7	-----
Total	100.0	100.0	100.0
Total number of workers	400	300	100
Average hourly earnings <sup>2</sup>	\$1.30	\$1.45	\$0.83

<sup>1</sup> Excludes minors and part-time workers; only the mechanical departments are included.

<sup>2</sup> Excludes premium pay for overtime.

<sup>6</sup> Only nine boys and two girls (all 16- and 17-year-olds) were employed in the establishments studied. Adult part-time workers were too few in number to justify presentation of data for the group. Data for office workers were grouped with office workers in other industries and appear in a separate section of the report. (See ch. 19.)

The study revealed unusual interestablishment differences in occupational wage rates. Workers employed in shops paying the lowest rates generally received half or less of the rate paid for similar work in establishments with the highest wage scales. Examples of the degree to which plant rates differed are provided in the list of occupations for which average hourly earnings data appear in table 63. Hand compositors, averaging \$1.55 an hour in the industry, were paid less than 70 cents an hour in three establishments, whereas the day rate for this occupation was \$1.95 an hour in the large establishments operating under terms of written agreements with the Honolulu Typographical Union (an A. F. of L. affiliate).<sup>7</sup> Of the 38 workers employed in this occupation, 8 earned less than \$1 an hour, 11 fell into the \$1 to \$1.94 earnings group, and 19 were paid \$1.95 or more per hour. The distribution of linotype operators by average hourly earnings was somewhat similar to the pattern of rates for hand compositors. Averaging \$1.69 an hour as a group, plant rates paid to linotype operators ranged from less than 70 cents an hour to \$1.95 an hour on day work, with the higher-paying establishments also adding the shift premiums for night work. In the case of linotype operators, however, 25 of the 42 workers were paid the union scale for the job.

TABLE 63.—*Straight-time average hourly earnings<sup>1</sup> in selected occupations<sup>2</sup> in the printing industry in the Territory of Hawaii, March 1947*

Occupation and sex	Number of workers	Average hourly earnings <sup>1</sup>
<b>Men:</b>		
Hand compositors.....	38	\$1.55
Janitors.....	11	.86
Linotype operators.....	42	1.69
Press helpers.....	11	1.19
Pressmen.....	40	1.47
<b>Women: Bindery workers.....</b>	<b>44</b>	<b>.82</b>

<sup>1</sup> Excludes premium pay for overtime.

<sup>2</sup> Excludes minors and part-time workers.

While similar interestablishment differences in wage rates were noted in the pressman classification, part of the variation in rates found in this job was attributable to differences in rates established for the various types of presses. Contracts entered into by the Honolulu Printing Pressmen and Assistants' Union (an A. F. of L. affiliate) provided that journeymen pressmen shall be paid \$1.60 an hour on hand-fed platen presses (pressman in charge of three presses) and \$1.75 an hour on small automatic presses (pressman assigned to two presses). As another example, a contract entered into by the Amalgamated Lithographers of America (affiliated with the CIO) and one of the firms included in the study provided a scale of weekly salaries for offset pressmen, with the rates increasing according to the number of colors involved and the width of the press plate. Among unskilled workers, the janitor job provides another illustration of the wide range of rates prevailing in the industry. Averaging 86

<sup>7</sup> The union agreement provided a rate of \$2.05 an hour for night work (shift beginning or ending after 6 p. m. and before 7 a. m.), and a rate of \$2.15 an hour for work on the third shift (shift beginning after 10 p. m. and before 4 a. m.). Several of the larger establishments operated on a two- or three-shift basis at the time of the study. The data presented in the tables for this industry reflect the inclusion of shift premiums.

cents as a group, janitors in two small shops earned less than 60 cents an hour, and \$1 or more an hour in two of the larger establishments. The lowest occupational rates were paid by the foreign-language publishing concerns, most of which were comparatively small in size. Generally speaking, the highest level of wage rates was found in the large union establishments located in Honolulu. Of the 19 firms visited, 4 were operating under terms of written agreements with labor unions, with 2 of the largest firms having signed agreements with 3 separate unions.

Japanese workers, who constituted the largest single racial group in the industry, were paid less, on the average, than workers of other races. Japanese hand compositors, for example, averaged \$1.23 an hour as compared with an average of \$1.55 recorded for all men in this job. Similarly, Japanese linotype operators, averaging \$1.51 an hour, earned 18 cents an hour less than the group average for all men linotype operators. Although Japanese, like workers of other races, were employed by the larger firms, many of them were working in small shops that paid comparatively low rates.

With very few exceptions the establishments included in the study operated on a 40-hour schedule in March 1947. A minimum of time and one-half the regular rates was paid for overtime work by all firms, with most of them indicating that the overtime rate applied only if the weekly hours (40) were exceeded. Three union establishments and one of the larger nonunion shops paid time and one-half for the first 4 hours in excess of 8 hours in any one day, with double time paid for time worked in excess of 12 hours a day. Another union establishment indicated that the double-time rates went into effect beginning with the twelfth hour. Overtime rates also applied to work on holidays in the larger establishments, and several indicated a policy of paying overtime rates for all work (in some departments) on Saturdays and Sundays. Overtime worked during the period studied had the effect of increasing the average hourly earnings of all workers by 6 cents an hour. Men workers averaged 42.5 hours of work and their gross average hourly earnings amounted to \$1.52, as compared with straight-time hourly earnings of \$1.45. Women worked less overtime than did men. Averaging 39.4 hours of work, the gross average hourly earnings of women were found to be 85 cents, 2 cents above their straight-time earnings. Gross weekly earnings of \$64.50 were averaged by men employees and \$33.41 by women. The gross weekly earnings for all workers combined amounted to \$56.73 during the period studied. With very few exceptions the employees of the Honolulu printing concerns were paid on an hourly rate basis. Workers in the skilled trades were generally salaried, however, in the establishments located on the islands of Hawaii, Kauai, and Maui.

Christmas or year-end bonuses were granted in 1946 by most of the firms visited. Among the firms that made such additional payments, the amount and nature of the payment varied greatly. On a percentage basis, these gift payments generally amounted to from 2 to 5 percent of the annual earnings of the employee. Several firms reported the incorporation of bonus payments, made previously, into the basic rate structure.

Paid vacations were granted to eligible workers, in shop and office alike, by 14 of the 19 printing concerns. Six firms provided a 1-week

vacation upon the completion of a year of service with the employer, with an increase, in the case of two of these firms, to 2 weeks for those who had 2 years or more of service. Eight firms, including four of the largest establishments included in the study, granted 2 weeks with pay to all employees who had completed a year of service. The five firms that did not have a formal policy of granting vacations with pay included three foreign-language publishing concerns and two small job printing shops. Formal plans for granting paid sick leave had been adopted by three firms, of which two were large union establishments.

## CHAPTER 17. TRADE

### WHOLESALE TRADE

The total number of wholesale trade establishments in Hawaii was estimated to exceed 300 at the beginning of the year 1947. The more important types of concerns included in this broad group are: wholesalers (wholesale merchants, distributors, jobbers, exporters, and importers) who are engaged in buying and selling on their own account; sales branches and sales offices of manufacturing concerns (mostly mainland firms); and agents and brokers. Although the typical wholesaler generally handles a single line of merchandise such as meats, groceries, liquor, business machines, or paints and paint supplies, some of the larger establishments not only sell a wide variety of unrelated types of merchandise but engage in other business activities as well. Several of the sugar factors, for example, have wholesale outlets on each of the major islands, and, although these sales establishments are among the most important wholesale outlets on each of the islands, they do not necessarily account for a major share of the income of the individual factors.

The study of hours and earnings of workers in wholesale trade is based on data received from 28 establishments operated by 25 firms.<sup>1</sup> The survey coverage represented a one-third sample of wholesale trade establishments employing 8 or more workers (smaller operations not studied). Establishments visited were selected to represent each segment of wholesale trade on each of the major islands, as well as other important factors bearing on wages. Data were obtained for a representative pay period during February or March 1947. Data presented in the tables relate to adult, full-time workers, exclusive of office workers.<sup>2</sup>

The straight-time average hourly earnings of 1,168 workers employed in these establishments amounted to \$1.25 an hour during the pay-roll period studied. The 1,104 men workers, as a group, averaged \$1.28 an hour and the small group of women employees, numbering 64, earned 85 cents an hour on the average. As shown in table 64, approximately one-sixth (16.0 percent) of the workers earned less than a dollar an hour, the earnings of 53.6 percent were grouped in the next 30-cent range (100.0 to 129.9 cents), and the remainder, amounting to 30.4 percent of the labor force, earned \$1.30 an hour or more. Of the 1,168 workers included in the study, 77 workers, most of whom were outside salesmen, earned \$2 or more an hour.

Average hourly earnings of men workers in 5 selected occupations are presented in table 65. Both laborers and truck drivers' helpers averaged \$1.04 an hour on a straight-time basis. Warehousemen,

<sup>1</sup> In the case of firms that had wholesale trade outlets on several islands the operation on each island was classified as a separate establishment. In scheduling firms that also operated in other fields of business activity, employees were grouped by type of activity and data for wholesale trade workers only were included in this section of the report.

<sup>2</sup> Only four minors and one adult part-time worker were employed in the group of establishments studied. Data for office workers are presented in a separate section of the report.

with average earnings of \$1.10 an hour, and truck drivers, with \$1.14 an hour average, also earned less than the \$1.25 an hour average for all workers combined. The highest-paid workers in the wholesale trade occupations studied were the salesmen, who as a group averaged \$1.81 an hour. Salesmen, who represented one-sixth of the employment in the establishments covered, averaged 67 cents an hour more than the composite average earnings in all of the remainder of the jobs in the industry. Comparatively little dispersion of individual rates was found in the laborer and truck drivers' helper classifications. In each job only three workers earned less than \$1 an hour and only eight workers received more than \$1.05 an hour. Rates paid to warehousemen, however, ranged from less than 70 cents to over \$1.40 an hour, with only minor concentrations scattered along the scale. The distribution of average hourly earnings of truck drivers was somewhat similar to that for warehousemen. As would be expected, the greatest variation in earnings, among the five selected occupational categories, was found in the sales group. Of the 194 salesmen employed in the 28 establishments visited, 61 earned less than \$1.50 an hour, 66 earned between \$1.50 and \$1.99 an hour, 45 earned between \$2 and \$2.49 an hour, and 22 earned \$2.50 or more an hour.

TABLE 64.—Percentage distribution of workers<sup>1</sup> in wholesale trade in the Territory of Hawaii by straight-time average hourly earnings,<sup>2</sup> February–March 1947

Average hourly earnings <sup>2</sup>	All workers	Average hourly earnings <sup>2</sup>	All workers
50.0 to 59.9 cents.....	1.2	170.0 to 179.9 cents.....	3.9
60.0 to 69.9 cents.....	2.1	180.0 to 189.9 cents.....	2.1
70.0 to 79.9 cents.....	2.7	190.0 to 199.9 cents.....	.6
80.0 to 89.9 cents.....	4.5	200.0 to 209.9 cents.....	1.9
90.0 to 99.9 cents.....	5.5	210.0 to 219.9 cents.....	.9
100.0 to 109.9 cents.....	25.6	220.0 cents and over.....	3.8
110.0 to 119.9 cents.....	15.8		
120.0 to 129.9 cents.....	12.2	Total.....	100.0
130.0 to 139.9 cents.....	6.3		
140.0 to 149.9 cents.....	4.5	Total number of workers.....	1,168
150.0 to 159.9 cents.....	2.3	Average hourly earnings <sup>2</sup> .....	\$1.25
160.0 to 169.9 cents.....	4.1		

<sup>1</sup> Excludes office workers, minors and part-time workers.

<sup>2</sup> Excludes premium pay for overtime and night work.

TABLE 65.—Straight-time average hourly earnings<sup>1</sup> of men workers<sup>2</sup> in selected occupations in wholesale trade in the Territory of Hawaii, February–March 1947

Occupation	Number of workers	Average hourly earnings <sup>1</sup>
Laborers.....	113	\$1.04
Salesmen.....	194	1.81
Truck drivers.....	136	1.14
Truck drivers' helpers.....	49	1.04
Warehousemen.....	156	1.10

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> Excludes minors and part-time workers.

The larger establishments paid higher rates than were paid to workers in the same jobs in the smaller establishments. In the four largest establishments (each employing 100 or more persons), truck drivers, as a group, averaged \$1.19 an hour, as compared with an average of \$1.06 an hour paid in this job in the group of establishments employing



less than 100 workers. Similarly, salesmen averaged \$1.89 an hour in the large establishments and \$1.57 an hour in the small firms.

The racial composition of the work force and average hourly earnings by race are presented in table 66. As in most Hawaiian industries, Japanese workers were more numerous in wholesale trade than members of any other racial group. Caucasian workers, the highest-paid employees in the industry, average \$1.50 an hour. The group average for Japanese amounted to \$1.17 an hour, and for Filipino employees \$1.05 an hour, the lowest hourly earnings recorded for any racial group. The great majority of the Filipinos employed in these wholesale trade establishments were grouped in the laborer category, and very few Filipinos were employed as salesmen. A majority of the salesmen were Caucasians.

TABLE 66. *Straight-time average hourly earnings<sup>1</sup> of workers<sup>2</sup> in wholesale trade in the Territory of Hawaii by race, February-March 1947*

Racial group	Number of workers	Average hourly earnings <sup>1</sup>
All races.....	1,168	\$1.25
Japanese.....	498	1.17
Caucasians.....	289	1.50
Filipinos.....	146	1.05
Hawaiians and Part-Hawaiians.....	127	1.20
Chinese.....	95	1.32
All others.....	13	1.30

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> Excludes office workers, minors, and part-time workers.

With very few exceptions, the establishments included in the study operated on a 40-hour-week schedule during the early part of 1947. A sufficient amount of overtime was worked, however, to bring the average weekly hours of the entire group to 42, with the 1,104 men employees averaging 42.2 hours of work per week and the 64 women employees, 38.9 hours. Time and one-half the regular rates was paid for overtime work by all firms, three-fourths of which paid the overtime rates for time worked in excess of 8 hours a day or 40 hours a week, while the remainder paid overtime rates only if the weekly hours (40) were exceeded. During the period studied, gross average hourly earnings, including premium pay for overtime, amounted to \$1.30 an hour for all workers combined, or 5 cents above the straight-time average hourly earnings of \$1.25 an hour. Gross weekly earnings averaged \$54.75 during the same period. The frequency of payment varied according to the status of the employee; salaried workers in nearly all cases were paid on a once-a-month basis, but hourly rated workers generally received their pay each week.

Sales personnel were typically employed on a straight salary basis; only a few of the smaller firms indicated a policy of paying commissions on sales. Christmas or year-end bonuses were granted by most of the firms in 1946. Several of the larger establishments formerly had a policy of granting year-end bonuses but recently discontinued such payments when general wage increases were granted. Among those firms that made additional payments to their employees in 1946, the amount and nature of such payments varied greatly. The smaller

companies generally limited the payment to the equivalent of the individual's pay for 1 week. One of the largest employers in the industry, however, granted to each employee 20 percent of his total straight-time pay for the year.

With the exception of a few small firms that adjusted wage rates on an individual employee basis, general wage increases had been granted since the end of the war by all of the firms included in the study. Although no attempt has been made to determine the average amount of adjustment that has been made in rates (hourly, weekly, and monthly), examination of data relating to wage changes made by the cooperating firms between January 1946 and February 1947 would indicate that the majority of the position rates have been increased by at least 15 cents an hour during that period. At the time of the study only 5 of the 28 establishments were operating under terms of written agreements with labor unions. Nearly all of the workers in the union establishments had received increases of 15 cents or more an hour during 1946.

In 22 of the 28 establishments included in the study, workers were eligible for paid vacations after completing a minimum period of service. Vacation plans usually provided 2 weeks' vacation to employees with a year or more of service. Several firms provided longer vacations (with pay) to employees with 2 years or more of service. On the whole, salaried workers averaged more vacation leave than did workers paid on an hourly basis. Formal plans for granting paid sick leave had been adopted by several of the firms visited. Most of the firms indicated that such protection from pay loss was granted on a discretionary basis.

#### GENERAL MERCHANDISE AND APPAREL STORES

Department stores, limited-price variety stores, dry-goods stores, apparel and accessories stores, shoe stores, and general merchandise stores in Hawaii provided employment to approximately 4,000 persons in the early part of 1947. This number of workers was estimated to be on the pay rolls of more than 400 employers in the trade group. Hundreds of additional persons were directly engaged in the industry as proprietor-employers, or as operators of small stores in which the store help was limited to members of the owner's family.

The largest establishments in this field of business activity are the Honolulu department stores. Apparel shops constitute an important segment of the group from the standpoint of number of stores as well as number of workers employed. The majority of the employers in Honolulu and outside Honolulu, however, are engaged in the operation of small, general-merchandise stores and dry-goods stores. With the exception of a few local concerns that operate several stores, and a mainland limited-price-variety store chain with operations on each of the major islands, the trade group is one of single-store units.

Data on hours and earnings of workers were collected from 23 firms, representing a 20-percent coverage of the group of establishments that employed 5 or more workers. Establishments visited were selected to represent each segment of the trade group. Data were obtained from each firm for a representative pay period in February or March 1947 and covered, as in the case of other industries studied,

all employees other than persons employed in executive, administrative, or professional positions.<sup>3</sup>

The study revealed that 533 adult full-time workers in the stores included in the survey averaged \$1.04 an hour on a straight-time basis. The 208 men averaged \$1.27 and the 325 women averaged 89 cents an hour. Although a wide range of individual rates were found among both men and women, as shown in table 67, a majority of the workers of each sex were concentrated in a relatively narrow earnings range. Of the group of men, 10.5 percent earned less than a dollar an hour, 63.5 percent fell in the 30-cent earnings range, 100.0 to 129.9 cents, 14.9 percent were grouped in the 130.0 to 199.9 cents earnings bracket, and the remainder (11.1 percent) earned \$2 or more an hour. Among women workers, 66.3 percent were grouped in the 70.0 to 99.9 cents earnings group, 10.4 percent earned less than 70 cents an hour, and the remainder (23.3 percent) earned a dollar or more an hour.

Part-time workers were employed by 12 of the 23 firms included in the study. The average earnings for the 80 adult workers regularly employed on a part-time basis amounted to 82 cents an hour; 19 men averaged 92 cents an hour and 61 women, as a group, averaged 78 cents an hour. A majority of the men as well as women were found to be earning between 70 cents and a dollar an hour.

TABLE 67.—Percentage distribution of workers<sup>1</sup> in general merchandise and apparel stores in the Territory of Hawaii by straight-time average hourly earnings<sup>2</sup> and sex, February–March 1947

Average hourly earnings <sup>2</sup>	All workers	Men	Women
Under 60.0 cents.....	3.6	-----	5.8
60.0 to 69.9 cents.....	3.0	0.5	4.6
70.0 to 79.9 cents.....	13.9	4.3	20.0
80.0 to 89.9 cents.....	13.1	1.4	20.7
90.0 to 99.9 cents.....	17.3	4.3	25.6
100.0 to 109.9 cents.....	10.1	14.9	7.1
110.0 to 119.9 cents.....	17.5	36.1	5.8
120.0 to 129.9 cents.....	6.4	12.5	2.5
130.0 to 139.9 cents.....	1.5	2.4	.9
140.0 to 149.9 cents.....	2.1	3.4	1.2
150.0 to 159.9 cents.....	.9	1.4	.6
160.0 to 169.9 cents.....	2.6	2.9	2.5
170.0 to 179.9 cents.....	.6	.5	.6
180.0 to 189.9 cents.....	1.3	2.9	.3
190.0 to 199.9 cents.....	.8	1.4	.3
200.0 cents and over.....	5.3	11.1	1.5
Total.....	100.0	100.0	100.0
Total number of workers.....	533	208	325
Average hourly earnings <sup>2</sup> .....	\$1.04	\$1.27	\$0.89

<sup>1</sup> Excludes office workers, minors, and part-time workers.

<sup>2</sup> Excludes premium pay for overtime and night work.

The sales clerk job category accounted for 283 of the 533 full-time workers and 72 of the 80 part-time workers studied. No other occupation was found in a sufficient number of stores to be considered typical of the industry. The volume of work in the larger stores justifies job specialization to the point that a part of the work force is employed in handling material stocks, as stock clerks, stock handlers, markers and checkers. The larger stores also employ truck drivers,

<sup>3</sup> While minors and office workers were included in the study, data relating to these groups are presented separately; data for office workers appear in ch. 19.

janitors, and, in some cases, watchmen. In connection with garment alteration work, fitters, tailors, seamstresses, and pressers are employed in the larger apparel stores and apparel departments of department stores. Men sales clerks employed on a full-time basis averaged \$1.58 an hour at the time of the study. Earnings varied greatly among the stores visited, as indicated by the fact that of the 70 men reported in this job category, 7 earned less than 80 cents an hour, and 9 earned more than \$2.50 an hour. Although at a generally lower level, earnings of women sales clerks were also distributed over a wide earnings range. Averaging 90 cents an hour as a group, individual earnings of 213 women employed as sales clerks on a full-time basis were distributed as follows: under 50 cents, 7 workers; 50 to 99 cents, 158 workers; \$1 to \$1.49, 34 workers; and \$1.50 and over, 14 workers. A partial explanation for the unusually wide range of earnings recorded in sales work is to be found in variations in method of wage payment found in the industry. Four firms, including several of the largest firms visited, paid commissions on sales and average earnings of sales clerks in this group of stores were well above the average earnings in other stores where sales clerks were paid on a straight salary or hourly rate basis. Limitations of the study did not permit an examination of other factors, such as type and price of merchandise sold, to determine the part they play in influencing earnings of sales personnel.

Minors were employed by 6 of the firms, but the total number of boys and girls under 18 years of age was too small to justify presentation of earnings data. Most of the group of 17 girls and 4 boys were employed as sales clerks, usually on a part-time basis.

Nearly one-half of the men and two-thirds of the women workers in the stores included in the study were Japanese. Second in number were the Caucasians who accounted for one-fourth of the men and more than a fifth of the women employees. Chinese, Hawaiians (including part-Hawaiians), and Filipinos, in the order named, came next in numerical importance.

Seventeen of the firms employed their workers on a salary basis. Of these, 11 employers paid their workers once a month and workers in the other 6 establishments received their pay each week. Six firms used the hourly rate basis of payment with all of their workers and most of this group paid on a once-a-month basis.

Little uniformity was found in the matter of scheduled hours of work per week. Workers in the larger Honolulu establishments were expected to work 40, and in some cases 42, hours a week. Longer hours, ranging from 45 to 48, were the general rule in the small shops in Honolulu as well as outside Honolulu. One and one-half times the regular rate was paid for overtime in all except a few small stores. Employers scheduling 45 hours or more of work per week generally indicated a policy of paying the overtime rates for work in excess of 48 hours per week. In the larger stores in Honolulu, workers received the overtime rate for work in excess of 8 hours a day or 40 hours a week. The amount of added earnings due to overtime work can be seen in the average earnings data presented in table 68. Men full-time workers, averaging 40.8 hours of work, had gross average hourly earnings of \$1.30 an hour, 3 cents above their straight-time hourly earnings. Although women employed on a full-time basis also averaged a fraction of an hour over 40 per week, they worked, in the aggregate, an insignificant total number of hours at overtime rates.

It should be noted that few men were employed in the smaller shops in which the longest hours were worked. Gross weekly earnings of \$52.88 and \$35.97 were averaged by men and women full-time workers, respectively, during February-March 1947.

TABLE 68.—Average hourly earnings, average weekly hours, and average gross weekly earnings of workers<sup>1</sup> in general merchandise and apparel stores in the Territory of Hawaii, by sex, February-March 1947

Sex	Number of workers	Average straight-time hourly earnings	Average gross hourly earnings	Average weekly hours	Average gross weekly earnings
All workers, total.....	613	\$1.03	\$1.04	36.8	\$38.19
Full time.....	533	1.04	1.05	40.7	42.57
Part time.....	80	.82	.82	11.0	9.06
Men, total.....	227	1.26	1.29	38.5	49.53
Full time.....	208	1.27	1.30	40.8	52.88
Part time.....	19	.92	.92	14.0	12.90
Women, total.....	386	.88	.88	35.8	31.53
Full time.....	325	.89	.89	40.6	35.97
Part time.....	61	.78	.78	10.1	7.86

<sup>1</sup> Excludes office workers and minors.

A practice of granting Christmas or year-end bonuses was indicated by 18 of the 23 firms. Several employers also reported the payment of bonuses on a quarterly or twice-a-year basis. A formal policy of granting paid vacations to eligible employees was found in 20 of the 23 establishments. The most common practice, reported by 12 employers, provided for a 2-week vacation with pay for all employees who had completed a year of service. Eight employers provided a 1-week vacation to employees with a year of service, with an increase, in the case of three of these firms to 2 weeks for those who had 2 years or more of service. Formal plans for granting paid sick leave were reported by six firms. Unionization was found to be less extensive in this trade group than in most of the industries studied.

#### RETAIL FOOD STORES

Retail merchandising of food in Hawaii, to an even greater extent than on the mainland, is carried on by small enterprises. Although a few local grocery concerns operate two or more stores, and a mainland grocery chain has established units in Hawaii, the vast majority of the food stores are operated as single units. In addition to a considerable number of owner-operated or family-operated stores, there were estimated to be about 500 food stores in the Territory in 1947 in which one or more workers were employed. This group included grocery stores, meat and sea-food markets, fruit and vegetable markets, small retail bake shops, and stores that combined several of these food lines. More than four-fifths of the food-store operators in the group employed less than five workers in 1947. Out of a total estimated employment of 1,600 persons in these 500 stores, nearly 1,000 workers were on the pay rolls of food-store operators that employed 5 or more workers.

The study of hours and earnings of workers in retail food stores is based on data collected from 30 establishments. The sample chosen

for this survey represented one-third of the food stores employing five or more workers, smaller stores being omitted. Twenty-four of the thirty stores visited were in Honolulu which reflects the heavy concentration of population in that city. Data were obtained from each firm for a representative pay period in March 1947. Although minors and office workers were included in the study these groups have been omitted from the tables and data for them are presented separately.

The study revealed that workers employed on a full-time basis averaged 93 cents an hour, exclusive of overtime pay, in March 1947. As indicated in table 69, men averaged \$1.06 an hour and women averaged 70 cents an hour on a straight-time basis. Although women were employed in nearly all of the establishments, they accounted for only three-eighths of the total employment in these stores. Women were generally employed as cashiers, cashier-sales clerks, and as general grocery clerks. In stores that provided fountain service, women were also employed as fountain attendants.<sup>4</sup> While men also were employed as sales clerks, the numerical superiority of men in the industry is attributable to the fact that, with few exceptions, butchers, delivery men (truck drivers), stock clerks, warehousemen, and janitors were men. The higher-average earnings of men were also due, in great part, to their greater employment in the higher-paid jobs.

Part-time workers accounted for 9 percent of the adult work force in the group of stores studied. Men part-time workers averaged 73 cents an hour and women workers employed on this basis averaged 64 cents an hour. Most of the men as well as women part-time workers were employed as sales clerks.

TABLE 69.—Percentage distribution of workers<sup>1</sup> in retail food stores in the Territory of Hawaii by straight-time average hourly earnings<sup>2</sup> and sex, March 1947

Average hourly earnings <sup>2</sup>	All workers	Men	Women
45.0 to 49.9 cents.....	2.0	0.5	4.4
50.0 to 54.9 cents.....	2.0	-----	5.3
55.0 to 59.9 cents.....	5.9	1.6	13.1
60.0 to 64.9 cents.....	4.3	2.1	7.9
65.0 to 69.9 cents.....	10.9	7.9	15.8
70.0 to 74.9 cents.....	11.9	5.8	21.8
75.0 to 79.9 cents.....	7.9	4.7	13.1
80.0 to 84.9 cents.....	3.6	3.2	4.4
85.0 to 89.9 cents.....	7.2	6.8	7.9
90.0 to 94.9 cents.....	3.9	5.3	1.8
95.0 to 99.9 cents.....	4.6	6.8	1.8
100.0 to 104.9 cents.....	3.9	5.3	.9
105.0 to 109.9 cents.....	4.9	7.4	.9
110.0 to 114.9 cents.....	1.0	1.6	-----
115.0 to 119.9 cents.....	3.0	4.7	-----
120.0 to 124.9 cents.....	3.9	6.3	-----
125.0 to 129.9 cents.....	3.9	6.3	-----
130.0 to 134.9 cents.....	5.3	8.3	-----
135.0 to 139.9 cents.....	2.0	3.2	-----
140.0 to 149.9 cents.....	3.3	5.3	-----
150.0 to 159.9 cents.....	1.3	2.1	-----
160.0 to 169.9 cents.....	1.0	1.6	-----
170.0 cents and over.....	2.6	3.7	.9
Total.....	100.0	100.0	100.0
Total number of workers.....	304	190	114
Average hourly earnings <sup>2</sup> .....	\$0.93	\$1.06	\$0.70

<sup>1</sup> Excludes office workers, minors, and part-time workers.

<sup>2</sup> Excludes premium pay for overtime and night work.

<sup>4</sup> Most of the food stores in Hawaii also sell nonfood items; 15 of the stores visited sold liquor. Drugs, dry goods, general merchandise, hardware, flowers, gifts, and curios were sold by one or more of the stores. Several stores also provided delicatessen and soda-fountain service.

An examination of the racial composition of the work force in this group of stores revealed that Chinese men comprised 40 percent, Japanese 32 percent, and Caucasians 19 percent of all men workers. Among women workers, 64 percent were Japanese, 21 percent were Caucasians, and only 10 percent were Chinese. A small number of Hawaiians, Filipinos, and Koreans were also employed in these stores.

A normal work week of 48 hours was reported by 25 of the 30 stores, while 3 of the largest stores indicated shorter hours and 2 small stores had scheduled hours in excess of 50 per week. Time and one-half rates were paid for overtime by 16 employers, and the remainder indicated a policy of limiting the hours to the normal schedule. Eleven of the sixteen employers who paid the higher rates for overtime work limited such payment to time worked in excess of 48 hours per week, two employers paid time and one-half for hours worked over 40 hours per week, and three employers indicated a policy of paying the overtime rate for all time worked in excess of 8 hours per day or 40 hours a week. Although men, as a group, averaged fewer hours of work per week than did women, they worked more hours at time and one-half rates. As shown in table 70, men employed on a full-time basis averaged 46.1 hours of work and their gross average hourly earnings (\$1.09) exceeded their straight-time average hourly earnings by 3 cents an hour. Women full-time workers averaged 46.4 hours of work and averaged 71 cents an hour with overtime included, as compared with a 70-cent straight-time average. Among part-time workers, women averaged four more hours of work per week than did men. Gross weekly earnings of \$50.33 were averaged by full-time men employees as compared with an average of \$33.07 earned by women who were scheduled to work the full week. Weekly earnings of part-time workers, with men averaging \$12.91 and women averaging \$13.82 a week, reflect the shorter hours worked by them, 17.7 and 21.7 per week, respectively, together with the fact that part-time employment was generally limited to lower-paid work in the stores.

In addition to the 335 adult workers, a total of 32 minors were employed in the group of stores visited; 17 of the 22 boys and 8 of the 10 girls were in the 16-17-age group, and the remainder were in the 14-15-age group. With a single exception, the minors were employed on a part-time basis, generally as sales clerks. Boys, as a group, averaged 49 cents an hour, 3 cents an hour more than the average earnings of girls.

TABLE 70.—Average hourly earnings, average weekly hours, and average gross weekly earnings of workers<sup>1</sup> in retail food stores in the Territory of Hawaii, by sex, March 1947

Sex	Number of workers	Average straight-time hourly earnings	Average gross hourly earnings	Average weekly hours	Average gross weekly earnings
All workers, total.....	335	\$0.92	\$0.94	43.7	\$41.02
Full time.....	304	.93	.95	46.2	43.86
Part time.....	31	.69	.69	19.2	13.26
Men, total.....	209	1.05	1.08	43.5	46.92
Full time.....	190	1.06	1.09	46.1	50.33
Part time.....	19	.73	.73	17.7	12.91
Women, total.....	126	.70	.71	44.0	31.24
Full time.....	114	.70	.71	46.4	33.07
Part time.....	12	.64	.64	21.7	13.82

<sup>1</sup> Excludes minors and office workers.

Most of the workers in the industry are salaried, with monthly rates more common than weekly rates. Part-time workers, both adults and minors, were typically paid on an hourly-rate basis. Christmas or year-end bonuses were paid to employees in three-fourths of the stores visited. Although several firms granted bonuses in 1946 amounting to 10 percent of the individual's annual earnings, these additional payments, in most of the stores, took the form of cash gifts of from \$15 to \$50.

Vacations with pay were less common in this industry than in most of the other industries studied. In 19 of the 30 stores visited, employees did not receive vacations with pay. Eight firms indicated a policy of providing a 1-week vacation with pay to employees who had completed a year of service, with an increase, in the case of three of these firms, to 2 weeks for those who had 2 years or more of service. Three firms granted 2 weeks with pay to all eligible employees (employees with a year of service). Formal plans for granting paid sick leave had been adopted by three of the largest firms, and several of the others indicated that such protection from pay loss was granted on a discretionary basis. None of the firms had written agreements with labor unions at the time of the study.

#### EATING AND DRINKING ESTABLISHMENTS

Restaurants, cafeterias, lunchrooms, sandwich shops, and drinking places, numbering approximately 1,000 in the Territory, provided employment to 6,000 wage earners at the end of 1946.<sup>5</sup> A substantial additional number are employed in hotel dining rooms, drug-store lunch and fountain service, industrial cafeterias, private clubs, and boarding houses. The large number of servicemen stationed in Hawaii and the increasing volume of tourist traffic help make the industry one of the most important in the Territory from the standpoint of total employment. Most of the establishments are located in Honolulu and typically employ only a few workers; nearly 50 percent of them have four or fewer persons on the pay roll, according to available estimates.

A survey covering 360 Honolulu eating and drinking places, conducted in April 1946 by the Department of Labor and Industrial Relations of the Territory of Hawaii, revealed that 1,669 of the 3,270 persons employed in these establishments received free meals during working hours and an additional 121 employees received free board and lodging. In addition, waiters, waitresses, and fountain attendants, as a group accounting for over 40 percent of the labor force, generally receive gratuities that supplement cash wages paid by the employer. It should be recognized, therefore, that a measure of cash wages understates the earnings position of workers in the industry. A distribution of employees by hourly cash wages received in April 1946 showed that 71 percent of the employees were paid less than \$1 an hour, with nearly half (48 percent) grouped in the 50-cents and under-80-cents-per-hour bracket. Cash wages paid to women employees, accounting for 54 percent of total employment, were generally lower than those for men employees. Although this was due in great part to the fact that men were more commonly employed in the higher-paid jobs (manager, chef, cook, bartender), there was evidence to indicate that women received lower wages than did men

<sup>5</sup> The estimates exclude owner- or family-operated establishments not employing help.



in the same occupation. Cash wages received by waiters, for example, averaged 83.4 cents per hour as compared with an average wage of 60.2 cents paid to waitresses. Both sexes are seldom employed in this work in individual establishments, however, and the difference in average cash wages may reflect the influence of such factors as type and location of establishment, unionization, and opportunity to receive gratuities.

Two-thirds of the employees in Honolulu eating and drinking establishments had a scheduled workweek of 48 hours. Although shorter hours were worked by a few workers in most of the restaurant occupations, hours worked by bartenders, bar maids, and bouncers were generally lower than those worked by employees in restaurant kitchens and dining rooms.

Many of the larger establishments in the industry are currently operating under terms of agreements with labor unions. While the proportion of the industry operating under such agreements could not be determined, the outcome of elections recently conducted by the National Labor Relations Board would suggest that the number of firms under contract has increased substantially since the end of the war.<sup>6</sup> Union representatives have estimated that wage rates contained in 1947 contracts represent an average increase of 10-15 percent over cash rates specified in 1946 contracts. Current contracts entered into by the Hotel and Restaurant Employees' International Alliance and Bartenders International League of America, an A. F. of L. affiliate, provide for overtime pay after 8 hours per day or 48 hours per week, a 2 weeks' vacation upon the completion of 1 year of service, and paid sick leave up to a total of 12 working days per year for employees with a record of continuous employment for 6 months.

#### AUTOMOTIVE SALES AND SERVICE

The various automotive industries of Hawaii (sales, repair services and garages, and service stations) tend to employ similar types of labor. Automotive sales agencies typically operate a service station and repair garage in conjunction with the sales of new or used cars. Few car salesmen are employed even in the largest sales establishments; the major occupational groups on the pay roll are those needed in the garage, service station, and parts and accessories departments. Most of the service-station operators also sell auto parts and accessories and provide general repair services on the premises. Similarly, automotive garage firms, especially those engaged in general repair work, commonly sell gas and oil and provide the types of services generally associated with service stations. There are, of course, many firms that specialize in a single activity. Among these are the used-car lots, body-repair shops, and automotive welding shops. However, in the key automotive occupations there is a ready transferability of skills from one type of establishment to another.

There were approximately 250 employers in the industry group in 1947. Filling-station operators accounted for nearly one-half and retail automotive sales firms represented less than one-fifth of the total employers (classified on the basis of their major activity). The sales group, however, employed about 40 percent of the more than two and a half thousand workers employed in the automotive industries.

<sup>6</sup> During the period between July 1946 and February 1947 unions filed 24 petitions for representation with the National Labor Relations Board and won elections in 12 cases.

The study of hours and earnings of workers in the automotive sales and service industries is based on data collected from 27 firms operating a total of 30 establishments.<sup>7</sup> The survey coverage represented a one-fourth sample of the total number of automotive firms employing four or more workers. Establishments were selected to represent each segment of the industry group as well as other important factors bearing on wages. Each of the four major islands is represented in the study. Although minors, part-time workers, office workers, and auto salesmen were included in the study, covering the March-April period of 1947, data for these groups have been omitted from the tables. With the exception of office workers, grouped in a separate section of the report (ch. 19), data for these employee groups are presented separately.

The overlapping of activities, noted above, is indicated in the following summary of the operations of the establishments visited. Of the 30 establishments, 29 operated repair garages, 23 had service-station facilities, 17 sold parts and accessories, and 15 sold new or used cars. In addition, 11 of the 30 establishments were engaged in one or a combination of the following: Auto-rental service; operation of a parking lot; machine-shop work; general welding service; or sales and service of farm implements. The tendency to provide a combination of automotive services and to engage in other, nonautomotive activities was especially noticeable in the case of firms operating on the islands of Hawaii, Maui, and Kauai.

Straight-time average hourly earnings of 523 workers employed on a full-time basis amounted to \$1.13 an hour at the time of the study. Only 11 women were employed in other than office work and most of this small group worked as parts clerks. As indicated in the percentage distribution of workers by average hourly earnings, presented in table 71, rates paid to individual workers ranged from less than 60 cents to \$1.80 or more an hour. One-twelfth of the workers earned less than 70 cents an hour, nearly one-third earned less than 90 cents an hour, and two-fifths of the work force earned less than \$1 an hour. The numerical importance of auto mechanics and skilled specialists (painters, body-repair men, welders) in the work force is reflected in the concentration of workers in the higher earnings brackets.

TABLE 71.—Percentage distribution of workers<sup>1</sup> in automotive sales and service establishments in the Territory of Hawaii by straight-time average hourly earnings,<sup>2</sup> March-April 1947

Average hourly earnings <sup>1</sup>	All workers	Average hourly earnings <sup>2</sup>	All workers
Under 60.0 cents	2.9	120.0 to 124.9 cents	2.5
60.0 to 64.9 cents	2.3	125.0 to 129.9 cents	4.4
65.0 to 69.9 cents	3.1	130.0 to 139.9 cents	5.5
70.0 to 74.9 cents	3.1	140.0 to 149.9 cents	3.3
75.0 to 79.9 cents	5.5	150.0 to 159.9 cents	14.4
80.0 to 84.9 cents	7.1	160.0 to 169.9 cents	2.3
85.0 to 89.9 cents	9.0	170.0 to 179.9 cents	1.5
90.0 to 94.9 cents	4.4	180.0 cents and over	3.8
95.0 to 99.9 cents	3.1		
100.0 to 104.9 cents	9.8	Total	100.0
105.0 to 109.9 cents	3.4		
110.0 to 114.9 cents	5.5	Total number of workers	523
115.0 to 119.9 cents	3.1	Average hourly earnings <sup>2</sup>	\$1.13

<sup>1</sup> Excludes minors, office workers, part-time workers, and auto salesmen.

<sup>2</sup> Excludes premium pay for overtime and night work.

<sup>7</sup> In the case of firms that operated on several islands, the operations on each island were classified as separate establishments. However, where filling-stations operators, for example, operated at more than one location within a community, all such operations were grouped and counted as a single establishment.

Average hourly earnings of men workers in five selected occupations are presented in table 72. First-class mechanics, accounting for one-third of the workers in these establishments, had the highest earnings, averaging \$1.42 an hour on a straight-time basis. The lowest occupational earnings (84 cents an hour) were recorded for mechanics' helpers. Service-station attendants, numerically the second most important group, averaged 86 cents an hour, 10 cents an hour less than the average earnings of second-class mechanics and 22 cents an hour less than the average wage of parts clerks. Individual earnings, however, varied widely within each of these job categories. Of the 139 first-class mechanics, for example, 10 earned less than \$1 an hour, 58 fell into the \$1 to \$1.49 earnings group, 46 were paid \$1.50 an hour, and the remainder (25) earned more. Rates paid to service-station attendants ranged from below 60 cents to as high as \$1.50 an hour. The highest rates were generally paid in the larger Honolulu establishments. It is interesting to note that nearly 50 percent of the mechanics employed on the less-populated islands were rated as second-class mechanics by their employers, in contrast to a similar rating covering only 10 percent of the mechanics employed in Honolulu. The combined average for first-class and second-class mechanics amounted to \$1.49 an hour in Honolulu and 97 cents an hour on the islands other than Oahu.

TABLE 72.—*Straight-time average hourly earnings<sup>1</sup> of men workers<sup>2</sup> in selected occupations in automotive sales and service establishments in the Territory of Hawaii, March–April 1947*

Occupation	Number of workers	Average hourly earnings <sup>1</sup>
Attendants, service station.....	85	\$0.86
Mechanics, first class.....	139	1.42
Mechanics, second class.....	38	.96
Mechanics' helpers.....	45	.84
Parts clerks.....	22	1.08

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> Excludes minors and part-time workers.

Although half of the establishments were engaged in selling automotive equipment, auto salesmen were employed in only seven of these establishments. Employed on a straight-salary basis, the 29 auto salesmen averaged \$1.79 an hour.

A total of 37 men were employed on a part-time basis in 11 of the establishments visited. Part-time workers were employed as service-station attendants and, in a few instances, as mechanics' helpers. The average hourly earnings for the group amounted to 82 cents an hour, a few cents less than the average rates paid in these occupations to full-time workers.

Minors were employed in 10 establishments, but represented only 4 percent of the total employment in all of the establishments included in the study. Nearly all of the minors were employed as service-station attendants or mechanics' helpers. The group of boys, including 24 in the 16–17 age group and 1 younger boy, averaged 73 cents an hour. They were paid lower rates than those received by adult workers (either part time or full time) employed in similar work.

Nearly two-thirds of the workers in the automotive industries were Japanese. Caucasians comprised one-fifth of the work force

and most of the remainder of the workers were Chinese, Filipinos, or Hawaiians.

Most of the workers included in the study were paid on an hourly rate basis. Although the entire staff in a few of the smaller shops was salaried, this method of payment was generally limited to key workers, such as working foreman, in most of the establishments. Incentive systems, whereby workers engaged in repair work receive a percentage of the labor charge on each job, are much less common in Hawaii than on the mainland. Commissions on sales were paid by several firms, but the total number of workers receiving such payments was very small. While a few firms paid their hourly rated workers once a week, most of the hourly rated as well as salaried workers in the study were paid semimonthly.

A normal workweek of 48 hours was reported in 14 of the 30 establishments, the scheduled weekly hours in 10 establishments were 40, and the remainder reported hours over 40 but less than 48 hours per week. Overtime was paid for at time and one-half rates, with the most common practice providing for the payment of overtime rates for all work in excess of 8 hours per day or 48 hours per week. A substantial majority of the workers, however, were employed in establishments in which overtime rates were paid for all work in excess of 40 hours per week. With the exception of the smaller firms, employers also paid the overtime rates for all work performed on legal holidays and, in some cases, for all work performed on Sundays. The 523 adult, full-time workers included in the study averaged 41.4 hours of work per week and their gross average hourly earnings (including overtime pay) amounted to \$1.15 an hour. As indicated earlier, the average hourly earnings for the group amounted to \$1.13 an hour on a straight-time basis. Gross weekly earnings averaged \$47.76 for the same group.

A practice of granting Christmas or year-end bonuses or gift payments was found in two-thirds of the establishments visited. Examination of data on payments made in 1946 would indicate that most of the individual payments fell into the \$25-\$100 range, with employees with the longest periods of service receiving more than \$100 in many of the establishments.

Vacations with pay were granted to eligible employees in all except six of the establishments. In 16 establishments a 1-week vacation with pay was granted to employees who had completed a year of service, with an increase, in the case of 11 of the establishments, to 2 weeks for those who had two or more years of service. Employees with a year of service were granted 2 weeks' vacation in eight establishments. With minor exceptions the vacation provisions applied to workers in office and nonoffice jobs alike. Formal plans for granting paid sick leave had been adopted in six of the largest establishments. At the time of the study only four of the establishments were operating under terms of written agreements with labor unions. Policies governing payment of overtime rates, vacations with pay, and protection from pay loss due to injury or illness were, on the whole, more liberal in union establishments than in nonunion establishments.

## CHAPTER 18. SERVICE INDUSTRIES

### LAUNDRIES AND DRY CLEANERS

Because of the continuous summer weather and the presence of a large number of tourists and officers in the armed services, laundry and dry-cleaning establishments constitute an important service industry in Hawaii. The 70 or more employers in these industries employed approximately 1,300 workers at the beginning of 1947. This estimate includes power laundries, dry-cleaning establishments, combination laundries and dry cleaners, and hand laundries. Owner-operated and family-operated shops in which no outside workers are employed are not included in the establishment count. Nearly two-thirds of the total employment was found to be concentrated in the five largest establishments, each employing 100 or more workers. Nearly all of the remainder of the workers were on the pay rolls of fewer than 30 concerns that employed between 4 and 100 workers. More than 90 percent of the laundry and dry-cleaning workers are employed in Honolulu and nearby areas.

Hours and earnings data relating to a representative pay period in March and April 1947 were obtained from 15 laundry and dry-cleaning establishments in the Territory. The establishments visited were selected to represent each segment of the industry group and accounted for 50 percent of the total employment in these fields. Both laundry and dry-cleaning operations were carried on in five of the establishments visited. It has been possible, however, to maintain a division of laundry and dry-cleaning workers in the presentation of data.

Group averages and distribution of workers by straight-time average hourly earnings are presented for men and women laundry and dry-cleaning workers in table 73. The survey revealed that the 611 employees in the 15 establishments averaged 76 cents an hour as a group.<sup>1</sup> Men laundry workers earned 93 cents an hour as compared with average earnings of 97 cents recorded for men working in dry-cleaning departments of laundries and in dry-cleaning plants. On the other hand, women engaged in dry-cleaning work averaged only 1 cent more than women laundry workers; the average hourly earnings for these groups were 71 and 70 cents, respectively. As indicated in the table, individual rates in each type of work and sex group ranged from under 60 cents to \$1.20 or more an hour. Nearly half of the women (48.2 percent in laundries and 48.6 percent in dry-cleaning operations) earned less than 70 cents an hour, and most of the remainder fell into the next 15-cent earnings class, 70 and under 85 cents. Comparatively few men were found to be earning less than 70 cents an hour. Much of the work performed by men in dry-cleaning plants requires greater skill than is generally associated with laundry jobs, which explains, in part, the greater concentration of men in the higher earnings classes in the dry-cleaning division of the industry.

<sup>1</sup> Employee groups omitted from the data presented in the tables included 13 minors (5 boys, 8 girls) 3 adult workers employed on a part-time basis, 50 drivers and driver-salesmen, and 50 office workers. Earnings data for driver-salesmen are presented separately and those for office workers were included in another section of this report relating to office workers in Hawaii (ch. 19).

TABLE 73.—Percentage distribution of workers<sup>1</sup> in laundries and dry-cleaning plants in the Territory of Hawaii by straight-time average hourly earnings,<sup>2</sup> and sex, March–April 1947

Average hourly earnings <sup>2</sup>	All establishments			Laundry operations		Dry-cleaning operations	
	All workers	Men	Women	Men	Women	Men	Women
Under 45 cents.....	1.1		1.5		1.9		0.6
45 to 49.9 cents.....	4.3	3.1	4.6	5.8	4.1		5.6
50 to 54.9 cents.....	1.1		1.5		2.2		
55 to 59.9 cents.....	5.1	1.5	6.0	1.4	5.6	1.6	6.8
60 to 64.9 cents.....	15.1	3.8	18.1	1.4	18.8	6.6	16.9
65 to 69.9 cents.....	13.7	3.1	16.6	1.4	15.6	4.9	18.7
70 to 74.9 cents.....	16.4	7.7	18.6	8.7	20.6	6.6	14.9
75 to 79.9 cents.....	10.6	4.6	12.3	4.3	12.5	4.9	11.8
80 to 84.9 cents.....	10.0	11.6	9.6	14.6	7.8	8.2	13.0
85 to 89.9 cents.....	4.6	9.2	3.3	14.6	4.1	3.3	1.9
90 to 94.9 cents.....	4.9	9.2	3.7	11.6	3.4	6.6	4.3
95 to 99.9 cents.....	2.8	10.0	.8	8.7	.6	11.5	1.2
100 to 109.9 cents.....	4.1	13.9	1.5	10.1	.6	17.9	3.1
110 to 119.9 cents.....	2.6	6.9	1.5	2.9	1.9	11.5	.6
120 to 129.9 cents.....	1.3	5.4	.2	2.9		8.2	.6
130 cents and over.....	2.3	10.0	.2	11.6	.3	8.2	
<b>Total.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Total number of workers.....	611	130	481	69	320	61	161
Average hourly earnings <sup>2</sup> .....	\$0.76	\$0.95	\$0.70	\$0.93	\$0.70	\$0.97	\$0.71

<sup>1</sup> Excludes office workers, minors, part-time workers, and driver-salesmen.

<sup>2</sup> Excludes premium pay for overtime and night work.

Women greatly outnumbered men in dry-cleaning plants as well as in laundries. Of the adult plant workers studied, 82 percent of the laundry workers and 73 percent of the dry-cleaning workers were women. The number of workers employed in each occupation, together with occupational average hourly earnings, are presented for the two industry divisions in table 74. Among the selected occupations, occupational averages for men ranged from 93 cents an hour for washers (hand or machine) in laundries to \$1.14 an hour for spotters in dry-cleaning work. With the exception of working foreladies in laundries, who averaged \$1.04 an hour, occupational averages for women ranged from 60 cents for mangle workers to 77 cents for markers, both job categories being found in laundry work. Earnings of workers employed in the occupations shown in the table varied from plant to plant. In the numerically most important job held by women—viz, hand ironer in laundries—earnings of individual workers ranged from 55 cents to over \$1 an hour. Interplant differences in method of wage payment were found to be a major factor in causing the spread in rates in individual occupations. Piecework systems of payment were common in the industry; approximately one-third of the women in laundry work as well as dry-cleaning work were employed on this basis. The jobs in which one-third or more of the women workers were paid piece rates were checkers, laundry; hand ironers, laundry; markers, laundry; and pressers in both laundry and dry-cleaning. With the exception of pressers in dry-cleaning work, few men in either laundries or dry-cleaning were employed on a piecework basis.

TABLE 74.—*Straight-time average hourly earnings<sup>1</sup> in selected occupations<sup>2</sup> in laundries and dry-cleaning plants in the Territory of Hawaii, March-April 1947*

Occupation and sex	Number of workers	Average hourly earnings <sup>1</sup>	Occupation and sex	Number of workers	Average hourly earnings <sup>1</sup>
<b>LAUNDRY</b>			<b>DRY-CLEANING</b>		
<b>Men:</b>			<b>Men:</b>		
Pressers.....	7	\$0.94	Dry cleaners.....	9	\$0.99
Washers, hand or machine.....	16	.93	Pressers.....	14	1.02
<b>Women:</b>			Spotters.....	10	1.14
Checkers.....	47	.69	<b>Women:</b>		
Counter clerks.....	18	.72	Checkers.....	14	.70
Foremen.....	7	1.04	Counter clerks.....	11	.71
Ironers, hand.....	80	.72	Ironers, hand.....	12	.66
Mangle workers.....	29	.60	Seamstresses.....	7	.70
Markers.....	34	.77			
Pressers.....	50	.66			
Seamstresses.....	7	.69			

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> Excludes minors and part-time workers.

The salary method of payment was limited to a few key workers with special skills, driver-salesmen, and clerical workers. Pay periods varied in length within the group studied, five firms paying every 2 weeks, three firms each week, five firms once a month, and the remaining two firms twice a month. The longest pay periods were found in the establishments outside of Honolulu. Although a 48-hour work-week was the general rule in the smaller establishments, the larger companies reported their hours as either 44 or 45 per week. Overtime work was paid for at one and one-half the regular rates by all except two of the smaller concerns whose officials indicated that straight time was paid for all hours worked. While eight firms indicated that overtime rates applied only to hours worked in excess of 48 per week, nearly three-fourths of the workers included in the study were employed in establishments in which the overtime rate was paid for all time worked over 8 hours in 1 day or 40 hours per week. Time and one-half rates were paid for all work on holidays for most of the employees.

Average hourly earnings (straight-time and gross), average hours worked per week, and average gross weekly earnings are presented in table 75. Overtime pay raised the average for all workers combined by 3 cents an hour. Men, with an average of 46.3 hours per week, worked nearly 5 hours more than women, with an average of 41.5 hours. Average gross weekly earnings amounted to \$45.88 for men and \$30.22 for women workers. Driver-salesmen, omitted from the groups for which hourly earnings data are shown, averaged \$80.73 per week. Nearly all of the 50 workers in this job category were employed on a commission basis with a guaranteed minimum salary provided.

TABLE 75.—Average hourly earnings, average weekly hours, and average gross weekly earnings of workers <sup>1</sup> in laundries and dry-cleaning plants in the Territory of Hawaii by sex, March–April 1947

Sex	Number of workers	Average straight-time hourly earnings	Average gross hourly earnings	Average weekly hours	Average gross weekly earnings
All establishments, total.....	611	\$0.76	\$0.79	42.5	\$33.55
Men.....	130	.95	.99	46.3	45.88
Women.....	481	.70	.73	41.5	30.22
Laundry operations, total.....	389	.74	.78	42.3	32.85
Men.....	69	.93	.98	47.5	46.60
Women.....	320	.70	.73	41.2	29.89
Dry-cleaning operations, total.....	222	.79	.81	42.8	34.76
Men.....	61	.97	1.00	45.0	45.06
Women.....	161	.71	.73	42.0	30.86

<sup>1</sup> Excludes office workers, minors, part-time workers, and driver-salesmen.

Christmas and year-end bonuses were granted to their employees by several of the smaller companies. Several of the larger firms reported that such payments, made in previous years, had been dropped in 1946. Two of the dry-cleaning concerns paid turn-out or attendance bonuses, amounting to 5 cents an hour in the case of one firm and 10 cents an hour in the case of the other establishment. Workers were eligible for the additional pay only if they worked the full week.<sup>2</sup> Such payments were apparently more common during the war years, as indicated by the fact that one of the largest firms in the industry paid an attendance bonus until 1946, when the bonus, amounting to 5 cents an hour, was incorporated into the basic wage scale.

Vacations with pay were provided to the great majority of the workers in the industry who had completed a year of service with their employers, although six of the smallest firms visited indicated that paid vacations were not granted to their workers. Applying to eligible workers in plant and office alike, the minimum practice among firms that had adopted a formal policy of granting paid vacations provided 1 week with pay to employees with a year of service. Two of the largest establishments increased the leave to 2 weeks for those who had 2 years or more of service. In four establishments, all workers were eligible for 2 weeks of paid vacation leave after they had worked a full year. While full pay for normal hours worked was the usual rule in connection with vacation pay, several employers limited the pay per week to 40 hours even though the scheduled or normal hours exceeded that figure. Four firms, including the two firms in the group that were operating under terms of written agreements with labor unions, had adopted a formal policy of granting paid sick leave. Because of the large number of workers employed in the union establishments, it is believed that more than half of the workers included in the study are covered by the plans outlined by these four employers.

Nearly one-half of the women employed in the establishments visited were Japanese. Other racial groups that accounted individually for 10 percent or more of the total number of women were the Caucasians, Hawaiians and part-Hawaiians, and Filipinos. Forty

<sup>2</sup> Attendance bonus earnings are included in the earnings data presented in the tables.



percent of the men employees were Filipinos, and Japanese men accounted for another 34 percent, with Caucasians and Hawaiians ranking third and fourth, respectively, in the employee count.

#### BEAUTY PARLORS

Increasing numbers of young women in Hawaii are entering or training for jobs in the field of beauty culture. This is indicated by the current ratio of apprentices to licensed operators (approximately 1 to 3), the enrollment at a Honolulu beauty school, and by the interest shown in licensing examinations held twice a year by the Territorial board of examiners.<sup>3</sup>

A 1944 survey covering 20 Honolulu shops, each employing two or more workers, revealed that 46 licensed operators, as a group, averaged \$1.02 per hour.<sup>4</sup> The average earnings of 29 Japanese operators, the largest racial group, amounted to 99 cents, in sharp contrast to average earnings of \$1.34 recorded for 13 Caucasian operators. Operators employed in shops owned and operated by Japanese received an average wage of 88 cents as compared with \$1.22 per hour average obtained by similar workers in beauty parlors owned and operated by Caucasians. Unlicensed operators, employed in 8 of the 20 shops surveyed, averaged 83 cents per hour; apprentice operators averaged 37 cents per hour in September 1944. Most of the operators (licensed and unlicensed) were paid on the basis of a commission, ranging from 40 to 65 percent, on their individual gross receipts. Only 3 of the 15 shops paying on a commission basis guaranteed the operators a weekly salary. Paid vacations were granted by only two of the establishments visited.

Revisits made in April 1947 to eight of the shops included in the earlier study revealed that average hourly earnings of licensed operators had increased by approximately one-third since September 1944. Most of the shops had changed from a 48-hour workweek to a 40 or 44 hour schedule since the earlier study. Average weekly earnings had, therefore, increased only slightly. The higher hourly earnings can be attributed, in great part, to higher prices charged in beauty parlors during the later period.

#### DOMESTIC SERVICE

The number of domestic service workers employed in the Territory declined by more than 50 percent between 1940 and 1946.<sup>5</sup> During the wartime manpower freeze, referrals for domestic service were limited by the United States Employment Service to persons who had no other type of job experience. This tended to reduce the number of persons entering household employment during a period when large numbers left domestic service to work in industries offering higher wages. The stigma attached to domestic service and the desire to be employed in war work were also significant factors in this change. A comparison of job openings in private household service

<sup>3</sup> A Honolulu beauty school, established in 1940, had an enrollment of 90 students in April 1947. A great majority of the students taking the 12 months' course were said to be Japanese. An average of about 160 persons have taken recent examinations for a license.

<sup>4</sup> Study conducted in September 1944 by Bureau of Labor Statistics; tips or other gratuities were not considered in arriving at average hourly earnings figures.

<sup>5</sup> The U. S. Employment Service estimated that 4,075 persons were employed in domestic service in January 1946; Bureau of the Census, U. S. Department of Commerce, listed 3,520 domestic service workers in 1940.

in 1947 with referrals made by the Territorial employment service indicates that available positions are far in excess of the number of applicants.<sup>6</sup>

Although wage data were not obtained from employers during the course of the study, offered rates listed at the placement agency provide a measure of income in domestic service work in the Honolulu area. Rates ranging from \$60 to \$140 per month, plus room and board, were offered in March 1947 for housework that did not include cooking. The most commonly offered rates were \$75 and \$80. Where the duties included cooking, the prospective employers generally offered \$100 or \$125, plus room and board. Lower monthly rates were offered in cases where room and board were not included. Some of the lower-rated positions involved part-time work or a 5-day work-week. It was stated that applicants were generally not interested in positions paying less than \$100 per month and that qualified domestic workers could command \$150 per month, plus room and board, when the job involved cooking duties. The generally standard rate for cleaning women employed by the day was reported to be \$1 per hour.

Many students and others in Honolulu were doing part-time domestic work in return for room and board, the generally accepted practice calling for 15 hours of work per week in exchange for three meals a day and room. For hours worked in excess of 15 per week the standard rate was 50 cents an hour, the rate in effect since 1944 when the rate was increased from 35 cents per hour.

The rate currently offered to yardmen was found to be \$1 per hour when employed on an hourly rate basis and about \$125 per month, plus room and board, for full-time employment. The hourly rate represents an increase from a 50-to-60-cent level which was typical in the Honolulu area during the early war years.

#### MOTION-PICTURE THEATERS

More than 1,100 persons in the Territory of Hawaii derive their income, or supplement wages received on other jobs, from employment in the motion-picture industry. Three firms, operating a total of 42 theaters on the 4 major islands and distributing films to smaller operators, employ approximately two-thirds of this number. In Honolulu and several of the larger island communities where theaters have afternoon as well as evening shows, most of the employees are engaged on a full-time basis. Plantation town theaters, however, schedule evening shows only, and most of the employees have day-time jobs in other industries.

A survey conducted in April 1946 by the Department of Labor and Industrial Relations of the Territory of Hawaii revealed that 88 percent of the women theater employees in Honolulu earned less than 90 cents per hour whereas only slightly more than half (54 percent) of the men received less than that figure, and a sizable group, amounting to 27 percent, earned \$1.50 or more. An explanation for this discrepancy in earnings is to be found in the fact that nearly all of the women were employed as ushers, cashiers, or stenographers, while jobs requiring longer training (projectionist, manager, assistant manager,

<sup>6</sup> The lack of interest in entering or continuing in domestic service work is reflected in a sharp membership drop in domestic service worker clubs sponsored by the Young Women's Christian Association in Honolulu. Prior to the war three such clubs existed, each with a membership of about 35 girls and women; in April 1947 the YWCA listed only 6 girls in domestic employment.

sound engineer, and maintenance-craft jobs) were held exclusively by men. Only 200 of the 676 persons employed by the 9 firms included in the Honolulu study were women.

Occupational average hourly earnings among the numerically more important jobs ranged from a high of \$2.164, earned by theater managers (men), to a low of 66.3 cents averaged by men ushers. Women ushers averaged 3 cents per hour more than did men employees in the occupation and women cashiers averaged 88.3 cents per hour. An unusually wide range of wage rates was reported in many of the occupations. Projectionists (all men), for example, averaged \$1.564 as a group, with rates paid to individual employees ranging from 40 cents to \$2.019. Five-sixths of the employees in Honolulu had a scheduled workweek of 40 hours in April 1946.

In April 1947 information relating to (1) general wage increases granted in the intervening 12-month period, (2) unionization, and (3) personnel policies was obtained from seven firms in the industry. While general wage increases, averaging 10 percent, had been granted by only three of the concerns visited, these firms employed a majority of the workers in the industry. In addition to increasing base rates by 10 percent, one of these firms had incorporated a yearly bonus of 1 month's salary into the basic wage scale.

Three of the theater management firms operated under terms of agreements with the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators, an A. F. of L. affiliate. The contract coverage was limited to projectionists in the case of two firms, but the third company reported an additional contract covering film exchange workers.

Paid vacations were granted by most of the firms to employees who had completed a year of service. Three firms provided 2 weeks' vacation leave after the minimum period of service, one firm granted 1 week, and another granted 1 week after 1 year of service with an increase to 2 weeks after 2 years of service. Several vacation plans did not apply to part-time workers. A majority of the employees in the industry were also paid for sick leave, the most common practice providing for a total of 1 week with pay during each year for employees with a year of service.

## CHAPTER 19. OFFICE WORKERS

Industries that differ markedly in the types of skills needed in staffing operating departments have many office occupations in common. Thus, while persons with manual skills acquired in one industry may find little or no demand for such work knowledge in seeking employment in other industries, office workers, trained in the operation of standard office machines or in a specialized activity such as pay-roll accounting, are much less restricted in their employment opportunities. Educational requirements established for office positions, including the more routine clerical jobs, are usually higher than those to be met by applicants for jobs outside offices. With an increasingly large proportion of employable persons in the Territory educationally qualified for office work, the competition for available office positions has become greater within recent years. A sharp reduction in Federal employment in the Territory since the end of the war has forced a comparatively large number of persons trained in office work to seek jobs in private industry and has made it more difficult for younger applicants, lacking work experience, to obtain employment in this field.

One factor that has influenced many persons to seek employment in the field of office work has been the salaried status of office employees. Employers have tended to be more liberal in granting paid sick leave, paid vacations, and year-end bonuses to salaried personnel than to the hourly rated workers generally employed in operating departments. Some of these advantages have been eliminated in recent years, however, since union agreements in many industries now provide for paid vacations and paid sick leave for all employees covered by contract. Although office workers are covered by union agreement in some establishments and industries, they are more typically excluded from the bargaining unit.

Office workers were studied as a separate group in each of the industries covered in the survey.<sup>1</sup> Officials, administrative and supervisory personnel, and professional employees were, however, excluded from the study. In order that a composite earnings structure could be presented, data for each industry covered were weighted by total office employment in the industry, exclusive of the very small establishments omitted from the study.

The ratio of office workers to total employment varied greatly among the industries studied. Although total employment in wholesale trade establishments is considerably lower than employment in the plantation industries (sugar, pineapple) or building construction, the office worker force greatly exceeded that employed in these other industries. Other major industries in which a higher than average proportion of total employment is engaged in office work are public utilities and retail general merchandise.

<sup>1</sup> A listing of these industries is provided in a footnote to table 77.

Women outnumbered men in office positions in most of the concerns included in the study except in stevedoring, sugar, and pineapple canning industries. The highest ratio of women to men (8 to 1) was found in offices in the retail general merchandise industry.

Japanese outnumber all other racial groups combined in office positions in the Territory. As indicated in table 76, 51 percent of the men employees and 58 percent of the women office employees were Japanese.

TABLE 76.—Percentage distribution of office workers in the Territory of Hawaii by racial origin and sex, February–April 1947

Racial group	Percentage of office force in industries studied		
	All employees	Men	Women
Japanese.....	55	51	58
Caucasians.....	23	18	27
Chinese.....	12	18	8
Hawaiians and part Hawaiians.....	5	4	5
Filipinos.....	3	7	1
All others.....	2	2	1
Total.....	100	100	100

The only major industry in which the Japanese did not hold a dominant position in office work was the public-utility group, in which Chinese were most numerous among men employees and Caucasians were the largest racial group among women office workers.

Hourly earnings of office employees in the covered industries averaged \$1.21 per hour in the early part of 1947. (See table 77.) Men, as a group, averaged \$1.40 per hour, or nearly a third more than the average wage of \$1.06 earned by women employees. Further, only 1.7 percent of the men, as compared with 10.1 percent of the women, earned less than 75 cents an hour, while more than one third of the former earned \$1.50 or more per hour, in sharp contrast to the 7.4 percent of women workers who fell in this upper bracket.

Although the rate structure differed from industry to industry, the comparative position held by women employees was about the same in each. A partial explanation for this lies in the fact that women are employed primarily as clerk-typists, stenographers, and in the lower-rated clerical positions, whereas a majority of the bookkeeping and accounting positions are held by men. It was also found, however, that average earnings of women workers were generally lower than those obtained by men workers in the same occupations.

TABLE 77.—Percentage distribution of office workers in the Territory of Hawaii by straight-time average hourly earnings,<sup>1</sup>—February–April 1947

Item	All industries <sup>2</sup>			Men					Women				
	Total	Men	Women	Pine-apple canning	Public utilities	Wholesale trade	Stevedoring	Sugar	Pine-apple canning	Public utilities	Wholesale trade	Printing	Retail general merchandise
Total number of workers <sup>3</sup> .....	5,000	2,251	2,749	147	202	645	76	572	137	246	909	136	525
Average hourly earnings <sup>1</sup> .....	\$1.21	\$1.40	\$1.06	\$1.62	\$1.37	\$1.45	\$1.62	\$1.35	\$1.27	\$1.06	\$1.10	\$0.98	\$1.00
Under 50.0 cents.....	0.8	0.2	1.4								0.7	5.9	
50.0 to 54.9 cents.....	.5	.4	.6									1.5	1.0
55.0 to 59.9 cents.....	.8	.1	1.5								3.3	2.9	
60.0 to 64.9 cents.....	1.0	.2	1.7		1.0					0.8	1.7	1.5	1.0
65.0 to 69.9 cents.....	1.0	.2	1.7								.3	4.4	1.0
70.0 to 74.9 cents.....	2.0	.6	3.2			0.5			2.2		2.3	1.5	
75.0 to 79.9 cents.....	3.9	2.2	5.2		1.0	2.3		3.5		11.4	4.6	5.9	8.6
80.0 to 84.9 cents.....	4.6	1.7	6.9			.9		3.5	2.2	13.1	4.0	1.5	9.4
85.0 to 89.9 cents.....	5.9	3.4	7.9			5.1		3.5	3.6	11.4	7.6	13.2	6.7
90.0 to 94.9 cents.....	6.4	3.6	8.7	2.0	3.0	.5		4.2	2.9	8.1	9.1	2.9	15.1
95.0 to 99.9 cents.....	5.5	3.5	7.2	4.8	3.0	2.8		4.2	13.1	8.9	7.3	4.4	12.3
100.0 to 109.9 cents.....	11.4	9.1	13.2	5.4	9.8	7.4	1.3	11.9	11.7	12.2	8.5	20.6	20.9
110.0 to 119.9 cents.....	11.5	9.2	13.4	3.4	13.8	10.2	9.2	7.7	17.6	8.1	16.4	8.8	9.5
120.0 to 129.9 cents.....	9.0	9.9	8.3	2.0	10.9	15.8	9.2	7.0	8.8	5.7	9.1	16.2	8.6
130.0 to 139.9 cents.....	8.4	11.4	5.9	8.8	12.8	10.2	6.6	16.0	8.8	5.7	7.3	2.9	1.9
140.0 to 149.9 cents.....	7.0	8.5	5.9	11.6	5.9	7.0	7.9	10.5	6.6	4.9	8.3	5.9	1.0
150.0 to 159.9 cents.....	4.5	6.9	2.5	4.8	11.8	5.6	13.5	4.9	.7	2.4	5.0		
160.0 to 169.9 cents.....	4.0	7.1	1.5	11.6	5.0	7.4	11.8	6.3	7.3	1.6	.7		1.0
170.0 to 179.9 cents.....	3.6	6.4	1.2	10.9	5.0	6.5	11.8	4.2	2.9	3.3	.7		
180.0 to 189.9 cents.....	2.5	4.7	.7	11.6	5.0	3.3	5.3	4.9	5.8	1.6	.7		
190.0 to 199.9 cents.....	1.5	2.4	.7	11.6	3.0	.5	3.9	2.8	5.1		.7		1.0
200.0 cents and over.....	4.2	8.3	.8	11.5	5.0	14.0	14.5	4.9	.7	.8	1.7		1.0
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> Excludes premium pay for overtime and night work.

<sup>2</sup> In addition to the selected industries for which data are shown separately, the composite figures include office workers in the following industries: Apparel; automotive sales and service; bakeries; building construction; custom tailors; laundries, cleaning and dyeing; pineapple plantations; retail food stores; and trucking.

<sup>3</sup> Estimated office worker employment in industry, exclusive of very small establishments; minimum size of establishment included in the study is indicated in each industry report

## CHAPTER 20. WOMEN IN INDUSTRY—HANDICRAFTS AND HOME WORK

The economy of Hawaii provides much the range of employment for women as is generally available in mainland communities—that is, employment in various types of retail stores, in offices throughout the Territory, in schools and libraries, in hotels and restaurants, in beauty parlors, and similar occupations typically open to women. Wages, hours, and working conditions in such employments have already been discussed in the pertinent sections of this report.

In addition to these fields of work, however, there are some unique Hawaiian handicrafts which provide employment for women. There has long existed in Honolulu, Hilo, and to a limited extent in other parts of Hawaii, a considerable amount of home work. Most of the home work in Hawaii is not of the nature that is usually considered industrial home work, however, and embodies features that are peculiar to the Territory. Because of its highly diversified character and because it tends to be organized along racial lines (often on the basis of a family or a group of families), it has been impossible to establish clear-cut employer-employee relationships or to obtain dependable data on earnings. The fields in which such minor home-work industries have developed are (1) lauhala products, (2) dressmaking, (3) photo studios, (4) curios, and (5) flower leis. Home workers are paid on a piece-rate basis. Visits to a number of establishments indicated that, with the important exception of strictly family enterprises, little child labor is involved.

### *Lauhala products*<sup>1</sup>

The weaving of lauhala is an old art in Hawaii. Before the war the work was done in rural sections mostly by older women of Hawaiian origin and often as a craft hobby. A variety of lauhala products appear in curio stores, gift shops, and department stores. They can also be obtained on order from the homes of the weavers, from weaving establishments, and from welfare organizations that use lauhala weaving as a basis for occupational therapy.

The war made a great difference to the lauhala industry. The islands were suddenly filled with men with money to spend and a desire to send typical island products home. The demand rapidly outstripped the simple home-weaver industry. To prevent profiteering, OPA set wholesale and retail prices for lauhala. These rates were higher than those paid before the war and attracted many new weavers into commercial weaving. The need for marketing the products of home weavers has developed a unique middleman system. Local merchants and truckers buy the finished lauhala products from weavers in the isolated areas (the Kona section on the island of Hawaii and certain areas on Maui and Molokai being the main centers). Sometimes they supply the lauhala as green leaves and the weaver

<sup>1</sup> Lauhala is the leaf of the hala (Pandanus) plant, which is cured and slit to provide the long, thin, pliable strips that are woven into lauhala products.

cures and prepares it. In other areas the weavers secure their own materials. Children are commonly used in processing the green lauhala and stripping it but not in weaving because beginners' products are not salable.

The largest single product is women's purses known to the wholesaler as shells, which are produced in many shapes and sizes. These are graded by the wholesaler and given out to other home workers who line the purse, insert zippers, and otherwise finish the product. Rates for these linings range from 10 cents to \$1.25 a bag and the liners rarely make the 40-cent-an-hour minimum wage. The finished product is sold to retail stores in the Territory, to Army and Navy stores, or is shipped for sale on the mainland. Because of the high price and the great demand for lauhala purses during the war, production tended to center on this product to the exclusion of others.

With the termination of the war the demand has fallen off, and prices and wage rates have decreased slightly; products are now refused when not of good quality and workmanship. The present trends are thus toward better quality and a wider variety of products. Lauhala floor mats, for example, are now generally available in Hawaiian furniture stores.

#### *Garment manufacturing*

There has long been a fluctuating amount of home work in the Hawaiian garment industry. This is primarily due to the demand for aloha shirts, beach clothes, and other distinctively Hawaiian garments.

The usual procedure is for the garments to be cut out in the central shop and given to the home worker to be finished in their homes. Some shops are giving out materials to be cut and finished by the workers; others try to approximate mass-production methods by using streamlined designs and materials so that home workers have to sew only one part of the garment.

Wages, which are on a piece-rate basis, are determined by each shop and show wide differences in rates and earnings of workers.<sup>2</sup> The general trend, however, is toward garment manufacture in larger shops by regularly employed workers, as previously discussed in this report.

#### *Sewing schools and dressmaking*

Visitors to Hawaii are impressed by the crisp, fresh dresses of the thousands of young working women in Honolulu and other parts of the Territory. Even those from the lowest-grade housing areas are neatly and attractively attired. The making of clothes for all members of the family is a traditional part of a Japanese woman's work and learning to sew is an essential preparation for marriage. Sewing schools in which girls pay tuition to learn dressmaking are common. Prior to the war, these were often associated with commercial shops or they directly serviced customers desiring hand-made dresses.

In 1939, a Territorial licensing law was adopted to be administered by the department of public instruction. In 1942, the Territorial wage-and-hour law required all such establishments not licensed by the department of public instruction to be inspected by wage-hour

<sup>2</sup> For example, one shop pays 65 cents for swimming trunks which take 30 to 35 minutes to make, \$1.25 for trousers taking 1 hour; another pays 55 cents each for aloha shirts which take 45 minutes to 1 hour to finish.



inspectors. Shops which were not genuine schools according to the standards set by the department of public instruction were required to pay wages to enrollees. For this reason, a number of schools went out of business before the war. The war caused a further decline, because women found war work in which their sewing skills brought them higher wages and because Japanese sewing schools, in which only Japanese was spoken, were suspected as centers of espionage and were closed for security reasons.

As of March 1947 there were 20 licensed sewing schools, enrolling about 900 students (primarily Japanese). Licensed schools are established on all of the islands. The department of public instruction prescribes a minimum curriculum which includes general courses in textiles, fashion, and drafting. Such schools show a range in tuition from \$20 to \$30 a month, and provide both day and evening classes (high school and employed girls often take evening lessons). Part-time students pay from \$6 to \$12 per month for their instruction. Teachers said that a normal full-time student could make from 75 to 150 garments in a 10 months' course. Most students do not advertise for commercial work<sup>3</sup> as allowed under the regulations of the department, but it was generally understood that they did undertake work for friends as well as for members of their own families. Full-time schooling is required to the age of 16 in Hawaii, hence most of the girls in these schools were over 16, since sewing schools are not considered equivalent to regular schools. In none of the schools visited were students living in the school, although students from other islands were enrolled.<sup>4</sup>

#### *Photo studios*

Because of the tourist business and the remarkable scenic beauty of Hawaii, photo studios for developing negatives and prints are of more than average importance in the Territory, and tend to overshadow the usual personal photograph business.

The demands of servicemen during the war resulted in the establishment of a large number of new shops and studios throughout the Territory. Inspection of these establishments showed a substantial amount of contract work performed by otherwise regularly employed workers in their own homes after working hours. The work consists primarily of retouching or tinting and is paid for on a piece-rate basis. No records are kept of earnings in this work, and rates vary widely, hence it is not possible to make any generalizations regarding earnings and hours worked.<sup>5</sup>

#### *Curio shops*

A few of the curio shops use home workers for stringing shell necklaces and for other types of work on curios. Workers are paid by the completed piece. Most of the shells come from other areas and are made up in Hawaii. This type of work is decreasing because it is less expensive to hire labor in Tahiti and Samoa to string shells before shipment.

<sup>3</sup> One of the schools visited does take commercial work, and the supervisor stated that girls made about half the going rate for dressmakers and would average \$6 for a simple dress.

<sup>4</sup> There are several types of private vocational schools in the Territory which also are licensed by the department of public instruction. These include 7 aviation schools, 2 beauty colleges, and 6 commercial schools which enroll 1,387 students. In addition there is a technical school and a Hawaiian Institute of Technology. They are more typically vocational in character than are the sewing schools.

<sup>5</sup> Rates are set by the shops, often on the basis of a given payment for a given batch of work taken home by the employee. One shop paid 80 cents for the tinting of a picture requiring 45 minutes; another paid 75 cents for tinting a picture requiring 30 minutes; still another paid 50 cents a head for retouching photographs regardless of the time required.

*Flower leis*

The making and vending of flower leis is one of the most colorful of the local industries of Hawaii. A lei consists of the petals of flowers strung in the form of a large necklace. Generally speaking, only the petals of one type of flower are used for a given lei but a great variety of flowers and leis are produced. The primary markets are: (a) local markets throughout the Territory for permanent residents who use leis on social occasions and holidays, (b) the tourist market which tends to center in Waikiki, (c) the markets at airports and steamer docks where leis are purchased for welcoming or bidding farewell to visitors, and (d) an increasing export market on the mainland based on air transport.

Leis are a highly perishable product and depreciate almost hourly after they have been made. On the other hand, the market is highly capricious. For these reasons, prices tend to fluctuate with the variations in the daily supply and the even more marked changes in demand; hence earnings are decidedly variable.

Because they are so perishable, the flowers for making leis are often brought directly to the point at which they are sold and the making and vending are thus carried on by the same persons. It is not uncommon, however, for lei-making to be carried on as home work, generally as a family enterprise. Children often help in the making of leis, but no record of the employment of minors in this field is available. Such work is usually based on advance orders and tends to be sporadic.

Retailers range from high-priced, fashionable florist shops to curb sales made by vendors. Some vendors are normally otherwise employed and appear only on special occasions (such as ship arrivals and holidays) to reap an extra profit. Prices range from as low as 50 cents to as high as \$15-\$20 for a good orchid lei. The typical lei sells for \$1 to \$3.

Although this work offers only part-time employment on special occasions to large numbers of street vendors, it does provide continuous employment to a limited number and is of sufficient importance to support some large flower farms.

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**PART VII**

**LABOR-MANAGEMENT RELATIONS**  
**THE RECENT EXPANSION OF LABOR**  
**ORGANIZATION**

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## CHAPTER 21. THE ORGANIZATION OF MANAGEMENT

No change in the economy of Hawaii during the war and postwar period has been more fundamental than the basic shift in labor-management relations. A review of the historic development and the recent expansion in the organization of management and the organization of labor is essential to an understanding of this change.

From the inception of the sugar industry until the establishment of military government in December 1941, organized management held a dominant position in the economy of the Territory.

Because many aspects of management control are not clear in respect to degree or detail, there has been an inclination to exaggerate the concentration of ownership. Less than half of the sugar land is directly owned by the plantations; the remainder is leased from Hawaiian and other individual estates and from the government of the Territory.

The dominant position of the island companies has been somewhat impaired by an infiltration of mainland concerns into the economy of Hawaii, including: (1) large mainland packing companies which control a significant share of Hawaiian pineapple plantations and canneries, (2) low-price retail chain stores now established on all islands, (3) branch offices for the conduct of general retail and mail-order business on a large scale, and (4) the development of mainland-owned air transport facilities which weakens the dominant position which the island management held over passenger transportation between Honolulu and the mainland.

There is also a definite record of sharp differences of view and of bitter struggles for control among various elements of the management groups in Hawaii.

In spite of these facts, there remain many evidences of a highly unified management control applying not only to specific industries but to the financial and industrial structure of the Territory as a whole. This centralization of economic authority is not primarily a matter of the legal ownership of island enterprises but is due to an integration of management organization and policies. It also is inherent in the isolated character of the Hawaiian economy and in the social and family relationships that have developed there over time. An important aspect of unification and control is thus in relationships which are not embodied in formal contracts or even in formal business organizations.

It should be noted that corporations and firms control about two-thirds of all taxable real property. Some of this consists of large private estates under Hawaiian ownership, but such land is largely under corporate management by virtue of long-term leases between the plantations and the Hawaiian and other estates. It is thus clear that in the actual control and use of properties, corporate management holds the dominant position. In this respect Hawaii does not differ from many mainland communities.

The unusual aspects of economic control in the Territory are: (1) the unification of management policy by virtue of a closely-knit organization of Hawaiian industries in which the sugar industry has played the leading role; (2) the development of the agency system in the hands of the five factors based on a complex series of corporate and contractual relations with the sugar and pineapple industries, the shipping and warehousing concerns, the wholesale and retail enterprises, the public utilities, the banks and insurance companies, the hotels, the interisland air and water transport companies, and the water and irrigation corporations; (3) the unusually large number of interlocking directorates in Territorial corporations; (4) the complicated system of land tenure which developed out of a primitive Hawaiian land system under a feudal king; and (5) the high degree of intermarriage among influential families of the Territory because of the relative isolation of Hawaii.

Because the sugar industry is the oldest, most powerful and most highly unified in the Hawaiian economy, it is common to think of the economic integration of the Territory exclusively in terms of sugar. Centralization of control is not confined to the sugar industry; it extends to every aspect of the economic life of Hawaii. Well over half of the pineapple industry is island-owned and is closely related to the sugar industry through interlocking directorates, intra-family holdings, and the agency system. The same may be said of concerns engaged in trade, finance, transportation, manufacturing, warehousing, and a great variety of minor activities.

Thus, the Territory of Hawaii possesses a strongly centralized industrial structure, highly integrated in its broader aspects as well as in its details, extending not only to the economic but even into the social and political aspects of island life.

Because the five factors that organized the Hawaiian Sugar Planters' Association not only control nearly all of the sugar industry but maintain corporate and contractual relations with numerous other island enterprises, the Hawaiian Sugar Planters' Association has been the most important center for the formulation of management policy.

With the rapid expansion of union organization immediately after the war it became necessary for all important enterprises in the Territory to place greater emphasis on industrial relations. In recent years there have thus been within Hawaiian enterprises a development and marked expansion of industrial relations departments, often headed by experts from the mainland. This trend rapidly culminated in the organization of the Hawaii Employers Council early in 1944. In its report of June 1947 the council states:

From an original nucleus of 24 firms, the council membership jumped to 173 at the first annual meeting; a year later it had grown to 218; at the third annual meeting 231 businesses comprised the membership; today, the fourth annual meeting finds 251 members throughout the Territory participating in council activities. \* \* \*

Council members now represent the bulk of Hawaii's businesses of every type, employing more than 65,000 wage earners. These members, meeting in a common forum, endeavor to determine the policies and practices which will be in the best interests of all Hawaii. \* \* \*

Prior to the organization of the council there were only 12 known labor agreements in effect. Today there are 156 such agreements in effect, covering thousands of workers in 116 separate business enterprises in Hawaii.

As of June 1947 the council's staff was participating in 80 collective bargaining negotiations (28 on behalf of council members who were negotiating their first agreements with unions and 52 on behalf of council members who had previously had contracts in force).

The Hawaii Employers Council provides four types of services to its members: (1) contract administration and negotiation; (2) technical advice and assistance on the details of personnel policies; (3) research and analysis covering wages, hours, working and living conditions, and other aspects of industrial relations; and (4) public relations.

## CHAPTER 22. THE ORGANIZATION OF LABOR

The fundamental change wrought by the war in the character of labor-management relations was not apparent until the war ended. The causes are to be found in forces which have long been developing in the Territory. But the changes that occurred in less than 2 years following the lifting of war restrictions would probably have been spread over a decade had it not been for the effects of the war itself which gave a powerful impetus to underlying tendencies.

Management policies in Hawaii, from the early beginnings of the plantation period, tended to prevent the development of strong labor organization in the Territory. In the period prior to annexation they were highly restrictive and exploitative, but during the last 50 years they have been increasingly paternalistic and conciliatory. The pineapple industry followed the lead of the sugar industry on labor policy. The other enterprises in turn accepted the leadership of the sugar and pineapple industries. In its simplest terms this policy was one of a strong emphasis on employee welfare programs, the betterment of working conditions, and a gradual increase in wages, combined with a well-planned opposition to labor organization.

In this policy, the basic sugar and pineapple industries and most of the other leading industries in Hawaii were remarkably successful: (1) Both official and unofficial welfare agencies were firmly established and, by cooperative arrangements and careful division of responsibility, achieved excellent results. (2) Health conditions were raised to very high levels in the face of unusually difficult health problems, not only in urban areas but also on plantations. (3) Through the perquisite system it was possible for the sugar and pineapple plantations, the ranches, and even some of the public utility and service industries, to adopt long-range programs for housing, recreation, medical care, and other items looking toward the improvement of working conditions. (4) Seasonality of employment was eliminated wherever possible and special efforts were made to carry plantation and other workers through slack periods by planning operations so as to maintain as full employment as possible. (5) Wages were gradually increased.

Higher wages and better living conditions were made possible by a unified program for the development of sugar and pineapple production, including (1) the adoption of mass-production methods throughout the industry; and (2) the planned integration of all elements entering into production including the purchase and processing of fertilizers, the purchase and improvement of plantation equipment, the building and extension of transportation systems, the construction of water-supply and irrigation systems, and the coordination of the shipping, processing and sales organizations for the marketing of sugar and pineapples.

The depression of the early thirties did not affect Hawaii so deeply as it affected the mainland, and the recovery from depression levels was much more rapid. During the early thirties Hawaiian wages



fell less markedly, and during the remainder of the decade they rose more rapidly than did mainland wages.

By 1939 earnings of workers on Hawaiian plantations were higher than average earnings of hired farm workers on the mainland and the plantations provided a greater continuity of employment. Because of the importation of oriental labor in the earlier days, there is a general impression that the Hawaiian plantation industries are based on "cheap oriental labor"; but long before the Second World War a labor supply at rates of pay in oriental countries had ceased to exist in Hawaii. Prior to the war, management organizations of Hawaii had gradually raised standards of living and wages to levels that would approximate those of the mainland in similar occupations. These gradual improvements in wages and working conditions placed management in a strong position to restrain union organization.<sup>1</sup>

In contrast with management, labor was decidedly weak and the largest labor groups in Hawaii remained unorganized until 1944.

The position of the Territory in the Pacific resulted in a partial isolation from the customs, attitudes, and influences which were spreading freely through the 48 States. At the same time, Hawaii was less isolated from oriental influences than was the self-sufficient mainland. Hence, the predominantly Asiatic labor force of Hawaii was less accustomed to material comforts, and less capable of being fused for a common purpose than were mainland American laborers. Several decades passed before the effects of the American school system in Hawaii became fully apparent as a unifying and democratizing force throughout all racial groups.

The historic policy of importing first one and then another racial group resulted in barriers of language and custom and tended to divide labor in the islands along racial lines. It also is true that many smaller enterprises tended to develop along racial lines so that a given Oriental store, barber shop or printing company came to be known as a Japanese or Chinese or Filipino concern. In such cases the racial ties between management and labor within the enterprise cut directly across the relations between laborers which form the basis of unionization.

Such labor organizations as did exist were generally established along racial lines. One of the largest strikes which occurred in Hawaii in the prewar period<sup>2</sup> was the sugar plantation strike of 1919-20 which was staged by two separate labor organizations (Japanese and Filipino). The strike occurred on the six plantations on Oahu and involved large losses due to the interruption of harvesting and planting schedules. It was estimated to have cost the plantations \$12,000,000. Japanese workers on the other islands refrained from striking in order to provide financial support to the Japanese strikers on Oahu. It is significant that the Filipinos returned to work on February 10, 1920, whereas the Japanese did not return until the end of July, indicating that union decisions were being made strictly along racial lines. Plantation labor organization disintegrated immediately after this strike.

<sup>1</sup> It would be an injustice to imply that the improvement in wages and the unusual development of welfare programs throughout the Territory were solely for the purpose of preventing the organization of unions, and no such implication is intended here. Generally speaking, management officials (some of them direct descendants of the old New England missionary families) have a strong sense of social responsibility but they were equally determined in their opposition to unions.

<sup>2</sup> Although strikes had occurred as early as the eighties and nineties, they were spontaneous, very brief (2 or 3 days), and were generally racial in character. Such strikes were little more than local demonstrations and were not very effective.

The prewar weaknesses of Hawaiian labor may be summarized as follows:

(1) Lack of labor-union experience on the part of the bulk of island labor.

(2) Differences in race, language, and custom which resulted in distrust, and even racial antagonism, among labor groups.

(3) Union leadership (frequently Caucasian) which was not indigeneous, hence did not command the full confidence of the rank and file of Hawaiian labor.

(4) Lack of adequate support for island unions on the part of the parent unions on the mainland.

(5) A tradition of employer-employee relations along racial lines (particularly in oriental concerns) which cut directly across the lines of union organization.

(6) Discrimination within some unions (established in Hawaii by Caucasian workers from the mainland) against workers of oriental extraction which intensified economic stratification along racial lines.

These conditions were gradually changing prior to the war. Racial differences were disappearing since island-born labor, rather than imported alien labor, had become typical. In addition to their common cultural background in terms of American schooling, American ideas of democracy, and the ties which developed from studying and playing together, there was one aspect of the economic position of all island-born labor which tended to draw them together. This was the fact that Hawaii offered the only possible economic future for them. Island-born citizens of oriental extraction were not welcomed when they returned to the countries from which their parents had come nor were economic conditions in Japan, Korea, China, and the Philippines such that they could find occupational opportunities which were at all comparable to those in Hawaii. The war heightened the barriers that prevented a return to the Far East. On the other hand, the mainland is an equally difficult place in which to find employment because of the necessity of building up a considerable reserve in order to get a start there and because of some antagonism to people of oriental extraction (particularly in west-coast cities). Hence, the occupational outlook of the average worker in Hawaii is strictly confined to the island economy.

This being the case, no individual laborer wished to take any action which would antagonize management. There was a general feeling among laborers in Hawaii, prior to the war, that leadership in union activity tended to mark them out as individuals and that, having incurred the displeasure of one enterprise, it became difficult to obtain employment in any other enterprise.<sup>3</sup> This intangible impediment to labor organization was one of the most powerful influences in preventing the growth of labor unions. The feeling of resentment engendered by this belief, however, was an equally powerful force tending toward unionism as soon as labor organizations became sufficiently powerful so that an individual laborer could enter into union activities without feeling that he was jeopardizing his economic future.

Workers in nonplantation industry in Hawaii differ from those who live on the plantations in position and outlook. They represent over four-fifths of the total of the number of gainfully employed; they live

<sup>3</sup> This does not imply a formal blacklisting procedure. The population of the whole of Hawaii is only one-half million; island communities are small, and union activities are well publicized.

primarily in Honolulu and a few smaller urban centers and their work is scattered through a great variety of enterprises including canneries, public utilities, service industries, retail stores, and small manufactures. This group includes a larger percentage of Caucasian workers and skilled trades than does the group on the plantations.

Unionism in Honolulu is older than the Territory, but such small labor organizations as did exist in the early days were made up of Caucasian workers from the mainland who brought their labor unions with them. A charter was issued to Typographical Union No. 37 in Honolulu on August 9, 1884, but it was not until 1910 that there were enough unions to form a central labor council.

The large plantation strike of 1919-20 was accompanied by a wave of small strikes in such enterprises as the Oahu Railway, the Mutual Telephone Co., the Honolulu Construction & Draying Co., and the Inter-Island Steamship Co. This led to an increasing interest in unions and a stiffening of policy on the part of both unions and management. Unions were still decidedly weak however.

In August 1935 three maritime unions (the Sailors' Union of the Pacific, the Marine Cooks and Stewards, and the Marine Firemen and Watertenders) sent agents to Honolulu to open hiring halls. These unions worked under contracts with the shipowners for the first time in the history of Honolulu. Since that time maritime unions have been a focal point of labor organization and activity in the islands. As a result of the maritime strike which began in October 1936, an effort was made to organize longshoremen. A CIO charter was applied for and received.

On May 26, 1938, maritime unions centering in Hilo, including longshoremen, warehousemen, clerks, and transport workers, presented demands to the Inter-Island Steamship Co. The outgrowth was a strike which lasted until August 15, 1938. The strike grew in intensity and the attempt to unload a steamship in Hilo on August 1 was the occasion for a mass demonstration, resulting in the injury of some 50 persons.

Prewar unionism tended to center in functional groups such as the metal trades council which included machinists, carpenters, boiler-makers, molders, and plumbers; the allied printing trades council, which included the typographical union, the pressmen, the engravers, and the newspaper guild; and the maritime unions, which were divided into two groups: (1) Cooks and stewards and firemen, who were members of the west-coast unions without local charters; and (2) other water-front unions such as the Interisland Boatmen's Union, longshoremen, and the Honolulu Water Front Association, each of which had a local charter. There were also a number of special unions for musicians; hotel, restaurant, and bar caterers; barbers; brewery workers; motion-picture operators; plasterers; butchers; transportation workers; and the telegraphers and radio station personnel. At that time, such organizations were small and weak. Less than 1 in 25 of the gainfully employed in Hawaii was unionized, but the developments of the two decades prior to the war clearly indicated a rising trend toward labor organization.

## CHAPTER 23. THE POSTWAR GROWTH OF THE LABOR UNIONS.

The wartime labor policies of the military government were discussed in the first section of this report. They were such as to bring to a focus all of those forces tending toward labor organization which had been rapidly accumulating prior to the war.

When wartime restrictions were lifted, the sudden release of forces which had accumulated before the war, and of the resentments which military government controls had engendered, resulted in a shift from a relatively unorganized to a highly organized Hawaiian labor movement which permeated every aspect of the economy of the Territory.

Although no petitions for union elections were filed with the National Labor Relations Board in 1942 and only six were filed in 1943, there were some sporadic increases in union membership in the Territory during those years by virtue of the large number of civilian employees with union affiliations who were recruited from the mainland for military construction. Because of the confused conditions of wartime employment, the rapid turn-over, and the frequent shifts from one project to another, these imported mainland workers were never fully integrated into local union organizations, but they had a significant influence on the outlook of Hawaiian labor.

In June 1944 the National War Labor Board was established in Hawaii; in August, the office of the military governor announced that all labor disputes would be handled by civilian officials and on October 24, 1944; Executive Order 9489 of the President of the United States terminated the martial-law status of the Territory. These developments made possible a sharp upward trend in organizing activity on the part of both CIO and A. F. of L. unions during that year. The ILWU played a leading role and has since become by far the most powerful union in the Territory.

In very few instances have employers in the Territory granted union recognition without recourse to an election conducted by the National Labor Relations Board. Therefore, the record of petitions for union representation filed with the NLRB constitutes virtually a complete record of the unions' efforts to organize.

TABLE 78.—*Number of representation petitions filed with the National Labor Relations Board, Territory of Hawaii, 1938-47*

Year	Number of representation petitions filed with NLRB on which elections were held	Number of elections resulting in union certification <sup>1</sup>
1938.....	3	1
1939.....	7	6
1940.....	4	4
1941.....	4	4
1942.....	0	0
1943.....	6	6
1944.....	34	34
1945.....	66	61
1946.....	105	95
1947.....	2 25	18

<sup>1</sup> By date of the filing of the petition.

<sup>2</sup> In addition, there were 2 recognitions without elections.

In 1945 the Territorial legislature passed the Hawaii Employment Relations Act, known in the Territory as the Little Wagner Act. This provided machinery for obtaining recognition for those employees not covered by the National Labor Relations Act.<sup>1</sup> Six official elections were held under this act in 1945; all of them resulted in union certification. An additional 15 elections were held in 1946; 14 of them resulted in union certification.

It is not generally possible to obtain accurate figures on union membership and in this respect Hawaii is no exception. The largest representation of A. F. of L. members is in the building construction and metal trades industries and the next largest is in the teamsters unions (including general teamsters, gasoline and oil drivers, and dairy workers). The remainder of A. F. of L. membership is in the service and trade industries.

The great bulk of the CIO membership is concentrated in the ILWU, with the remaining membership largely in the National Union of Maritime Cooks and Stewards (including the culinary and service workers), and the American Communications Association.

In the spring of 1944, the ILWU first began filing petitions for representation in the sugar industry. The direction of election was issued in January 1945 and the certification of representation was issued on March 22, 1945. The ILWU won all elections with the exception of an election for one sugar mill in which the A. F. of L. won the majority. Certain plantation employees were ruled to be agricultural laborers and not within the jurisdiction of the NLRB. A cross-check was therefore made by mutual agreement between the union and the sugar companies which resulted in recognition of the union as the bargaining representative for these workers.<sup>2</sup> Thus both plantation and mill workers in the sugar industry were included in the industrywide union contract.

In 1945 and 1946 NLRB elections were held throughout the pineapple canning industry and in each case the ILWU was certified as the collective bargaining representative. Elections were held under the Hawaii Employment Relations Act for the pineapple plantation workers and the ILWU was also certified as representative for these workers. Separate industry-wide contracts were negotiated for cannery workers and for plantation workers.

Prior to the war there were relatively few jurisdictional disputes between the A. F. of L. and CIO unions and until 1947 there was little jurisdictional friction. Both unions organized in the same industries and even within the same companies, but matters of jurisdiction were generally settled through established procedures provided under the NLRB or through mutual consent.

Thus, between 1944 and 1947 the centers of economic power and the pattern of labor-management relations in Hawaii were decidedly altered. Prior to the war the unions were weaker than their membership implied because of the effectiveness of management policies. By 1947 Hawaii was one of the most highly unionized areas in the United States, and for two reasons the unions' strength was even greater than numbers would indicate: (1) The concentration of labor strength in

<sup>1</sup> Under Hawaii Employment Relations Act certain minor categories of employees were excluded, including domestic service.

<sup>2</sup> The Hawaii Employment Relations Act provides machinery for the determination of representation of employees not covered by the National Labor Relations Act and the existence of this statute may account in part for the willingness of the employers to grant recognition of plantation workers on the basis of a cross-check.

the I. L. W. U., and (2) the extreme vulnerability of the island economy of Hawaii to strikes.

The I. L. W. U. has organized a wide range of island industries, but the strength of its position derives from its domination of labor in the three most strategic economic activities in the Territory, (1) sugar production, (2) pineapple production, and (3) ship transport and stevedoring. Since the administrative organization of the I. L. W. U. provides for a high degree of concentration of authority in the hands of a very small group of labor leaders, it is possible to plan labor demands and to coordinate strikes (or the threat of strikes) in such a way as to enhance the pressure behind the demands of labor. This was clearly illustrated in 1947 when the I. L. W. U. arranged its contracts with the sugar industry, the pineapple industry, the shipping companies, and a number of other industries so that wage negotiations in all of these activities could be simultaneously reopened on February 1, 1948.

The economy of Hawaii is much more susceptible to an action of this sort than that of a mainland community of similar size would be. The extreme vulnerability of the island economy was clearly demonstrated in the spring of 1947 when the I. L. W. U. threatened a shipping strike in June. As early as April business firms began to cancel their advance orders for merchandise from the mainland. This was due to the fact that, during the strike in the autumn of 1946, merchandise delivered to west coast docks for shipment to Hawaii remained there during the strike while the purchasers were billed for the invoiced goods which they could not sell. New business firms and small firms could not afford to pay for merchandise not actually in physical inventory and rather than run the risk of bankruptcy they canceled orders. This later resulted in a loss of sales on such merchandise and created shortages of various types of consumer goods<sup>3</sup> in the Territory.

As soon as the shipping strike was threatened in 1947, practically all of the construction contracts that were in negotiation were postponed and even construction which was to start in April or May was held up because neither the owner nor the contractor wished to assume the risk of starting projects when there was no reasonable assurance that the materials for completing them could be obtained.

These developments, in turn, affected employment and in a number of ways affected both wholesale and retail trade. It is significant that the banks tightened credit throughout the Territory as soon as the possibility of a strike in June became known.

In the end, the strike did not materialize, but the fact that even the threat of such a strike was so serious that its effects reached beyond shipping and stevedoring into financial, industrial, and trad-

<sup>3</sup> The immediate effects of a shipping strike are especially feared because 65 percent of all food consumed in the Territory is obtained from the mainland, hence every resident is directly affected. Strikes in the sugar and pineapple industries reduce the flow of consumer goods to Hawaii in a way that is less immediately apparent and is therefore less generally understood; yet their effects are more serious from a long-run point of view. Hawaii produces only a very small fraction of the items which enter into the present consumption pattern of the Territory. Sugar and pineapples constitute over 90 percent of all commodity exports and are the primary industries on which the bulk of other Island enterprises must depend. Thus a strike which seriously impairs production in either industry (such as the sugar strike in the autumn of 1946) results in a decline in the power to purchase mainland commodities, accompanied by an eventual lowering of standards of living throughout the Territory. The threat of a combined sugar, pineapple, and shipping strike is therefore an extremely powerful weapon in the hands of Hawaiian labor leaders.

ing enterprises throughout the Territory clearly indicates the unusual power which labor unions can now exert in Hawaii.<sup>4</sup>

*The left and right wings of the labor movement*

The changes in the wage structure and the development of the unions can be statistically measured, but the most fundamental change in the economy of Hawaii during the past decade, the change in the outlook and the attitudes of Hawaiian labor, cannot be reduced to statistical terms. Labor in Hawaii exhibited a remarkable degree of solidarity from 1944 to 1946 in the achievement of a high degree of unionization. In no other section of the United States were the National Labor Relations Board elections so unanimously in favor of the unions nor the shift from a relatively unorganized to a highly organized area achieved so rapidly. But no discussion of labor conditions in Hawaii would be complete without some consideration of the ideological issues which were gradually developing within the ranks of labor and which marked the beginnings of a left and right wing within the labor movement in Hawaii in 1947.

It was not surprising that a movement of such forcefulness, largely under the leadership of unions from outside of Hawaii, should develop reactions among the rank and file of Hawaiian labor. Throughout 1947, charges of Communist influence in labor unions were made not only by civic organizations and government officials<sup>5</sup> but also within the ranks of labor itself. A joint committee of the A. F. of L. unions started a public campaign in the spring of 1947 against "the Communist influence in the I. L. W. U. and other CIO unions." The intensity of this struggle rose steadily throughout 1947 and by the end of the year had become a focal point of dissension. Following the passage of the Taft-Hartley Act, six petitions for decertification were filed with the NLRB.<sup>6</sup>

If collective bargaining becomes confused with abstract ideological arguments and racial prejudices (not characteristic of the islands in the prewar years), labor-management relations may become so charged with antagonisms as to cause break-downs in the Hawaiian economy. The developments of 1947 pointed clearly to such dangers when tensions rose to such heights that practical considerations were swept aside.<sup>7</sup> A continuing emphasis by both sides upon a practical approach to practical problems and a determined avoidance of ideological and racial issues in dealing with problems of collective bargaining would do much to prevent labor-management conflicts from reaching dangerous emotional levels.

<sup>4</sup> It should be noted that these widespread effects which harm labor as well as all other residents tend to cause strong reactions which limit the use of the strike. That is, too frequent a use of this power tends to weaken the union.

<sup>5</sup> On November 14, 1947, the Governor of the Territory announced that there was definite evidence of a disruptive and antigovernmental Communist program in the Territory and that it would be necessary to undertake investigations pending governmental action to deal with the situation. The American Legion, Department of Hawaii, took an active interest and proposed to support such an investigation. On November 22, 1947, it was announced that the Territorial Delegate to Congress had written to the Department of Justice urging the Attorney General to give full support to the American Legion's request for the investigation. These announcements intensified discussion in public meetings, in pamphlets, and in newspapers which extended directly into the unions, thus widening the gap between the left and right wings.

<sup>6</sup> It should be noted, however, that agricultural workers who can apply for certification under the Little Wagner Act (Territorial) have no channel through which they can apply for decertification. The Territorial Department of Labor is not empowered to entertain such a petition and, since agricultural workers are not included in the Taft-Hartley Act, the NLRB is in a similar position. Decertification elections cannot be held during the period of a labor-management contract.

<sup>7</sup> This was especially evident in the pineapple strike in the early part of July.

## SUMMARY

The period of rapid unionization in the Territory of Hawaii has differed from unionization on the mainland during the same period in a number of important respects:

(1) Until 1944 Hawaii was one of the least organized areas in the United States, but within 2 years it had become one of the most highly organized areas.

(2) There was less effective opposition to union activity by employers (in comparison to prewar attempts at unionization in the Territory).

(3) The organizing drive by the CIO was limited very largely to activity by one union, the International Longshoremen's and Warehousemen's Union.

(4) Union activity was not limited to employees covered by the National Labor Relations Act but was extended to agricultural labor in both the sugar and the pineapple industries.

(5) The two major industries in the Territory, sugar and pineapple, were unionized.

(6) The I. L. W. U.'s organizing efforts extended to industries not employing longshoremen or warehousemen, i. e., to agriculture, manufacturing, trade, service, utility, and transportation industries.

(7) Complex racial issues played a significant role within the unions and in labor-management relations.

(8) Both labor and management were strongly influenced by outside (mainland) representation.<sup>8</sup>

In other respects the labor movement in Hawaii tended to parallel unionism on the mainland. In common with many mainland unions, communism became a central issue as between the left and right wings of the labor movement in Hawaii in 1947.

<sup>8</sup> The Employers Council was largely staffed and led by industrial relations experts from the mainland. Both the A. F. of L. and the CIO are under mainland-born labor officials and have frequently sent high-ranking representatives from the mainland to the Territory in connection with major strikes or organizational drives. The U. S. Conciliation Service has also sent special mainland conciliators to Hawaii in connection with major strikes.



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**PART VIII**

**LABOR LAW AND ITS ENFORCEMENT**

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## CHAPTER 24. TERRITORIAL DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

Before the Hawaiian Legislature created a Territorial department of labor there were a number of local and Federal agencies engaged in setting up and enforcing labor standards. The Production and Marketing Administration,<sup>1</sup> the National Labor Relations Board, and the Wage and Hour and Public Contracts Division of the United States Department of Labor continue to have a significant influence on labor-management relations, and in the enforcement of minimum wage regulations, overtime pay requirements, and child labor regulations.

Because of the influence of Federal legislation and the close cooperation between Federal and Territorial officials, and because of the long-felt need for a unification of local fact-finding, policy-making, and enforcement activities, the Territorial legislature created the department of labor and industrial relations in 1939 (act 237 of the Legislature of Hawaii). The department is under the general supervision of the commission of labor and industrial relations appointed by the Governor of Hawaii, and contains four bureaus: (1) the bureau of research and statistics, (2) the bureau of workmen's compensation, (3) the bureau of unemployment compensation, and (4) the bureau of labor law enforcement, all of which are under the supervision of a director of labor and industrial relations appointed by the commission. Certain appellate functions relating to action taken by the director and to a portion of workmen's compensation decisions are vested in a labor and industrial relations appeal board appointed by the Governor.

The Bureau of Unemployment Compensation represents a consolidation of the former activities of the unemployment compensation board, excepting certain appellate functions, and the functions of the United States Employment Service (which were returned to the Territory by the USES on November 16, 1946).

The bureau of workmen's compensation assumed all except certain appellate functions of the industrial accident boards which had been established in 1915. An apprenticeship council was established on January 1, 1942, and a special wage and hour division of the bureau of labor law enforcement began operations on March 1, 1942.

The functions of the department thus include: unemployment compensation, workmen's compensation, enforcement of labor laws, and the maintenance of a bureau of research and statistics. Since its inception the department has played an increasingly important role in these fields.

Although mediation and conciliation functions are conferred upon the department of labor and industrial relations by the act creating

<sup>1</sup> The labor regulations of the Production and Marketing Administration (formerly the AAA) apply only to agricultural labor in the production of sugar and are not mandatory. But the plantations cannot receive "compliance payments" unless they observe the standards of the PMA in respect to minimum wages, maximum hours, and child labor. Since the compliance payments are so large as to be necessary for the continued operations of plantations, PMA regulations are, in fact, carefully observed.

the department, these functions as well as the regulation of collective bargaining relationships are, by a later statute enacted in 1945, conferred upon an independent employment relations board. This board holds elections for choosing collective bargaining representation and acts to prevent unfair labor practices.

In April 1942 the Territorial wage and hour law became effective and its enforcement became a responsibility of the department of labor and industrial relations. At that time the law called for a minimum wage of 25 cents per hour for workers on Oahu and 20 cents on the outer islands, with a 48-hour week and time and a half for overtime. In 1943 the hourly rates were raised to 30 cents on Oahu and 25 cents on other islands. In 1945 the minimum was still further increased to 40 cents an hour and applied to all islands alike. No changes were made in hour or overtime regulations.

The department of labor and industrial relations has gradually expanded its inspection program to enforce wage and hour laws. Between July 1942 and June 1943, 853 establishments were inspected. Of these, 57 percent were in violation of either wage or hour provisions, and a total of \$55,247.38 was paid to employees in restitution. In 1945-46, 900 establishments were inspected, and 261 or 29 percent were found to be in violation; \$39,982.48 was recovered in restitution. Between July 1, 1946, and June 30, 1947, there were 2,046 inspections resulting in restitution to 1,254 employees of a total of \$41,354.93 for violation of minimum wage or overtime provisions or both.

Under the labor law of the Territory, the director of the department may collect wages up to \$200 for each individual employee under claims filed with the department. In 1945-46, 94 wage claims were filed, involving \$7,059.97. In 1946-47, 170 claims involving \$12,422.62 were handled.

According to the report of the Territorial department of labor, the workmen's compensation law covers approximately 190,000 workers in the Territory. During the fiscal year July 1, 1946, to June 30, 1947, \$787,260 were paid as workmen's compensation. A total of 7,491 firms are covered by workmen's compensation insurance in the Territory.

The report of the bureau of unemployment compensation for the year ended June 30, 1947, reflects a serious increase in unemployment. Job openings declined 65 percent during the year, whereas applicants for employment doubled and veteran applications in the active file increased nearly four times.

A total of 13,813 veterans were discharged during the year, and 3,609 (26.1 percent) filed claims for unemployment allowances. Payments to veterans under the GI bill of rights for readjustment allowances during the year totaled \$393,772 as compared with \$34,795 for the previous year, ending June 30, 1946.

Payments for unemployment compensation throughout the year reached an all-time high. Claims paid in January 1947 alone were greater than the total paid the entire previous fiscal year—\$55,759 compared to \$55,594. These claims arose largely from the sugar and maritime strikes in the fall of 1946. Total unemployment benefit payments for the year ended June 30, 1947, amounted to \$345,073, which is an increase of 520.7 percent over the previous fiscal year.

The amendment of the child-labor law in the 1947 session of the Territorial legislature raised the certification age for minors employed

in agriculture from 16 to 18 years and the minimum employment age of minors from 12 to 14 years. (See discussion of child-labor law, pp. 196-197.)

All certificates for minors under 14 years of age were revoked as of June 30, 1947. During the year (ending June 30, 1947) 12,158 certificates were issued for all age groups out of which 60 percent were for boys and 40 percent for girls.<sup>2</sup>

These developments indicated a continuing expansion in the responsibility and activities of the Territorial department of labor and industrial relations.

<sup>2</sup> Table 79, p. 197, indicates age distribution by calendar years.

## CHAPTER 25. CHILD LABOR

### *The effect of the war*

After the attack on Pearl Harbor, the schools did not reopen until February 20, 1942. The need for the maintenance of production and the building of defenses was so great that everyone worked, even the children. Records covering the employment of minors during this period are only fragmentary, but they indicate that minors assisted in a wide variety of enterprises and in numbers sufficiently large to constitute a significant element in the total labor force.

They were especially important in three general fields of work: (1) Defense construction under the Army and Navy, (2) plantation and other agricultural work, and (3) retail stores, restaurants, and similar direct consumer-service activities.

### *The school-work program*

By the time plans were being made to reopen the schools,<sup>1</sup> the work of minors had become so important that the department of public instruction was urged to modify the regular school program to make possible the part-time employment of students in order to relieve the acute labor shortage and assist in the maintenance of essential wartime production.<sup>2</sup>

Soon after the schools reopened, the department of public instruction made arrangements (first on Oahu and later on the other islands) to close schools 1 day a week in order to allow all students over 12 years of age to work. The plan provided for (1) supervision of the student workers in the sugar and pineapple fields by classroom teachers, (2) supervised transportation supplied by the plantations, and (3) sanitary and health inspections by the Territorial board of health. Transportation was carefully handled and no accidents were reported during the entire period of the program. Because of the pressure of defense work, on the other hand, teacher supervision was not always available. Many of the teachers, since they taught only 4 days a week, took other part-time jobs. Comparatively few of them went with the children to the fields. Health inspections also tended to be lax, because of other emergency wartime demands on the board of health.

The children were dismissed primarily to work in the sugar and pineapple plantations and in truck gardens, but many of them worked in stores and in other consumer-service enterprises.

Those working on sugar and pineapple plantations<sup>3</sup> were paid on a sliding scale, depending on age and sex. In 1942, for example,

<sup>1</sup> Many school buildings had been commandeered for military purposes, teachers were difficult to obtain, school supplies were lacking, and the schools had to be reopened under makeshift arrangements. Between February and June 1942 school work was especially irregular.

<sup>2</sup> Minors in Hawaii had traditionally made their pocket money in part-time jobs, not only in town but also on the plantations, in the canneries, and in the coffee fields; hence it was relatively easy to fit them into a wartime work program.

<sup>3</sup> Children over 12 years of age were permitted to work in the pineapple fields, but only those who were 14 or over worked on sugar plantations. This difference was due to the Sugar Act of 1937 which, as amended in 1940, provided that benefit payments made under that act were subject to a deduction of \$10 for each child under 14 for each day or portion of a day that such child was employed.

Honolulu boys working in pineapple fields earned from 30 cents an hour for those 12 years to 55 cents an hour for those 17 years of age, whereas 12-year-old girls received 28 cents an hour and 17-year-old girls received 50 cents an hour. These rates were later increased.

In the period between October 1942 and January 1946 students worked 14,368,008 hours<sup>4</sup> in the sugar and pineapple fields. Records were not kept in all the schools, but the department of public instruction estimated that 646,052 8-hour days were spent on the sugar plantations and 1,149,949 8-hour days were spent in the pineapple fields.<sup>5</sup> Children were estimated to have harvested 350,000 pounds of coffee and to have raised over 3,000,000 pounds of vegetables in school gardens.

Officially, the school work program covered a period of nearly 4 years, from February 1942 to January 1946. In reality, for most of the students in the program, it lasted only 3½ years. The objection of parent-teacher associations and other groups to its continuation after VJ-day led to the resumption of a normal program in most of the schools in September 1945. Hence its official termination in January 1946 merely confirmed the action which had already been taken at the beginning of the school year.

In summary, the effects of the school work program were:

1. A significant contribution to agricultural production, to defense construction, and to a wide variety of consumer services.

2. A loss in school training by those students involved in the program which can be roughly measured by the loss of 1 day in 5 throughout the 3½ years of the program, and the loss of the final years of secondary school training by those over 16 who did not return to school after the war started.

3. A period of practical experience in the basic industries of the Territory which, to a limited degree, may be considered a partial offset to the loss of regular school training.

4. A considerable increase in the earnings of multiworker families.

5. A marked but temporary expansion in the volume and variety of occupations open to minors (which has caused minors to be dissatisfied with the restricted employment opportunities and rates of pay that have been available to them since the war ended).

#### *Employment of minors by the armed services*

Employment of minors by any of the branches of the armed services during the war did not require work permits. The Navy excluded all minors of Japanese descent, whereas the Army employed minors without reference to racial origin with the exception of employees in "high security positions." It is not possible to evaluate the contribution of minors to defense construction, but there can be no doubt that it was important.<sup>6</sup> On the other hand, as conditions became more normal in Hawaii after 1942, a strenuous effort was made to restrict the employment of minors to those who were over 16.<sup>7</sup> Because much of this work was highly mechanized, most of the young persons in it received some mechanical training and experience. This

<sup>4</sup> To this figure should be added the work of those over 16 who in normal times would have returned to school, but because of the war continued at full-time employment. This was one of the "social costs" of the war.

<sup>5</sup> Figures furnished by the department of public instruction for the military citation presented February 13, 1946, to the schools of Hawaii for their contribution to American defense.

<sup>6</sup> An Army report on minors employed in Oahu installations as of April 1945 indicated that 3,091 persons 20 years of age or less were holding jobs in such installations.

<sup>7</sup> Of the 3,091 noted above, only 10 were below 16 years of age, and 345 were 16 or 17 years of age, leaving 2,736 in the 18-, 19-, and 20-year classification.

broader development of mechanical skills by many young persons has since been a factor (minor but nevertheless significant) in the trend toward mechanization on the plantations and in other island industries.

#### *Child-labor regulations and their enforcement*

Prior to 1939 the only Territorial regulation of child labor in Hawaii was a provision limiting work of children under 16 in any employment to an 8-hour day, 48-hour week, and a prohibition of work between 9 p. m. and 5 a. m. In 1939 the law creating the department of labor and industrial relations established a 16-year minimum age for work in any occupation during school hours, or at any time in factories or in connection with any power-driven machinery, or in any occupation determined, after hearing by the commission of labor and industrial relations, to be hazardous. Children between 12 and 16, however, were permitted to work outside school hours in nonfactory and non-hazardous employment. A maximum 8-hour day, 40-hour week, 6-day week, and a prohibition of work between 6 p. m. and 7 a. m. were established, but the commission was given power to make variations, by regulation, in the number of week days or in the night hours prohibited, for good cause, if the work would not be detrimental to health or well-being of minors. Combined hours of work and of school for minors under 16 were limited to 9 a day, and a half hour lunch period for minors under 18 was required.

The act required employment certificates for children under 16, to be issued by persons appointed by the director of the department of labor and industrial relations in such form and under such conditions as he prescribed.

Work of children over 12 years of age was permitted in agriculture outside school hours and during vacations, and the certificate requirement for children in agriculture applied only to those under 14.

In 1941 an amendment raised from 16 to 18 the age under which employment certificates are required, except for children in agriculture during periods when they were not legally required to attend school. At the same time, however, it relaxed the child-labor law by requiring the lunch periods for minors only up to 16 years of age instead of 18, and by widening existing exemptions. Children between 12 and 16 years of age were permitted to work "when not legally required to attend school" instead of only outside school hours and during school vacations. Employment in domestic service was entirely exempted from the act.

In 1945 the following changes were made in child-labor regulations:

1. The clause prohibiting minors under 16 from working in, or about, or in connection with, any power-driven machinery was retained, but the clause prohibiting work in factories was eliminated (sec. 421 (a), ch. 71, revised laws of 1945). This change had little effect because relatively few businesses in the Territory were classified as "factories." The 16-year minimum age for work during periods when a child is legally required to attend school remained in effect.

2. Until 1945 children under 14 employed in agriculture during periods when they were not required to attend school were required to have employment certificates; in 1945 this requirement was made to apply to children under 16 employed in agriculture.

3. The hours for minors under 14 were limited to 30 a week and to not more than 6 hours in any one day. The commission was given



the power to modify this law by issuing a waiver upon a petition in which it was shown that such a waiver was required to prevent loss or deterioration of a perishable commodity, but such a waiver could not be issued for a minor under 14 to work more than 8 hours a day or 40 hours a week (sec. 1421 (d), ch. 71, Revised Laws of 1945). Although petitions for such waivers were received, the commission refused to grant such a relinquishment.

4. The commission was given power to grant lower than the minimum rate of pay to minors under 14 in agriculture (1945, Act 15, sec. 2). Petitions for such a lower rate were received but were denied.

Thus, prior to the legislation of 1947 the Territorial laws and the decisions of the commission had done much to eliminate minors under 16 from full-time employment. Of the total of 12,040 certificates issued for minors under 18<sup>8</sup> for the year ended June 30, 1947, 4,672 were in manufacturing; 2,337 were in agriculture; 1,973 were in "personal, business, and recreational activities"; 1,929 were in wholesale and retail trade; and the remainder were in transportation, construction, and other fields.

The 1947 legislature revised the child-labor laws to prohibit the employment of any minor under 14 years of age at any time and to require work permits for employment of children in agriculture up to 18 years of age. The minimum-age provision applies to employment in agriculture as well as to all other gainful employment, excepting the sale and distribution of newspapers or domestic service within a private home.

The record thus indicates that since 1939 child-labor standards throughout Hawaii have been repeatedly raised by the Territorial legislature and enforced by the bureau of labor-law enforcement.

TABLE 79.—*Certificates issued for the employment of minors in the Territory of Hawaii*

Kind of certificate	For calendar years—							For first 5 months of—	
	1940 <sup>1</sup>	1941	1942	1943	1944	1945	1946	1946	1947
<b>Ages 14-17:</b>									
Regular.....	4, 077	5, 870	7, 181	5, 513	4, 868	4, 984	4, 485	1, 050	555
Outside school hours.....	295	578	7, 029	8, 999	8, 070	10, 469	2, 981	796	292
Reissued.....	( <sup>2</sup> )	1, 758	2, 884	3, 967	4, 516	5, 325	6, 568	1, 919	1, 250
Total.....	4, 372	8, 206	17, 094	18, 479	17, 454	20, 778	14, 034	3, 765	2, 097
<b>Ages 14-15:</b>									
Regular.....	128	235	694	295	191	172	103	67	39
Outside schools hours.....	295	578	7, 029	8, 999	8, 070	10, 469	2, 981	796	292
Reissued.....	( <sup>2</sup> )	25	32	109	124	149	458	91	151
Total.....	423	838	7, 805	9, 403	8, 385	10, 790	3, 542	954	482
<b>Ages 16-17:</b>									
Regular <sup>3</sup> .....	3, 949	5, 635	6, 487	5, 218	4, 677	4, 812	4, 382	993	516
Reissued.....	( <sup>2</sup> )	1, 733	2, 302	3, 858	4, 392	5, 176	6, 110	1, 828	1, 099
Total.....	3, 949	7, 368	9, 289	9, 076	9, 069	9, 988	10, 492	2, 811	1, 615
<b>Ages 18-19</b> .....	398	967	382	125	71	174	150	43	24

<sup>1</sup> 16-year minimum in effect January 1940 (when student not legally required to attend school).

<sup>2</sup> In 1940 the reissuing of certificates was not in practice.

<sup>3</sup> No distinction is made between regular certificates and outside-school-hours certificates issued for minors 16 and 17 years of age.

<sup>4</sup> It should be noted that the child-labor law was extended (1945 session of Territorial legislature) to cover minors in agriculture under 16 years of age. Prior to that time children under 14, but not those 14 and over, were required to obtain certificates for work in agriculture. Beginning in 1945 certificates were required for children up to 16 in agriculture. The higher figures for 1945 and 1946 are largely due to this change. The regulations adopted in 1947 did not apply until July 1, 1947.

Source: Bureau of Labor Law Enforcement, Department of Labor and Industrial Relations, Territory of Hawaii.

<sup>8</sup> A few of these were issued for minors 18 and 19 years of age. For age distribution in general of certificates issued, see table 79.

## CHAPTER 26. THE REGULATION OF SMALL-LOAN COMPANIES AND THE GROWTH OF CREDIT UNIONS

In Hawaii the small-loan problem has been a difficult one to handle because of the complexity of social and racial conditions and the lack of experience of imported laborers in credit matters. On the plantations it was a common practice to permit employees to buy on credit at plantation stores, but the management found it necessary to maintain a careful check on store orders and to aid workers in planning expenditures in order to prevent them from becoming too heavily indebted. Another aspect of the debt problem grew out of the fact that plantation workers were inclined to make purchases beyond their means on the installment plan. Noncitizens in particular were easily influenced by high-pressure salesmen. Plantation management therefore excluded sales representatives of any company which garnisheed wages of plantation workers.

The debt problem was not by any means confined to plantation workers. Among both city and plantation wage earners, electrical appliances and motorcars have a social significance in addition to their practical usefulness. This fact and the importance of "face" to those of oriental origin constituted powerful incentives to buy on credit.

Before 1933, borrowers from small-loan companies were subject to the same techniques of exploitation as were such borrowers on the mainland. In Hawaii this problem was accentuated by loan companies organized as "benevolent associations" along racial lines. They were dominated by managers who charged excessive interest rates and used the organization for exploiting members of their own race. Orientals in general and native Hawaiians in particular are hospitable and friendly. As a result, anyone who wished to borrow experienced little difficulty in finding a relative or friend who would act as co-signer for his note. This problem became so acute that, in 1933, the Governor of the Territory issued an order asking department heads to restrain Territorial employees from endorsing notes of fellow employees and friends. Conditions continued to grow worse and the Governor later found it necessary to issue an executive order requiring that a Territorial employee obtain the written consent of the head of his department before endorsing the note of any other Territorial employee.

A small-loan law was enacted in 1933 permitting a charge of 1 percent per month deductible in advance and an additional loan fee not to exceed \$2 on loans of \$100. The law was too loosely drawn to be effective. By manipulation of the loan-fee device, rates as high as 1,000 percent were charged. In effect, the law gave the appearance of legality to a system for charging exorbitant rates.

In 1937, this act was superseded by the uniform small-loan law of the Russell Sage Foundation with adaptations to meet Hawaiian conditions. This limits the highest interest rate to 12 percent a year, deductible in advance, and specifically prohibits any other charges.

In the same year the Farm Credit Administration initiated the development of farm-credit unions. By January 1, 1938, there were 60 such unions with 7,654 loans outstanding, totaling \$737,029. They have expanded rapidly to a position of importance, especially in the sugar and pineapple industries. The high earnings which were possible during the war and the postwar rise in wage rates throughout the Territory have tended to lessen the importance of small-loan companies and to increase the strength of credit unions.

As of December 31, 1946, there was a total of 97 Federal credit unions in the Territory with an actual membership of 35,866 out of a potential membership of 69,180. The average savings per member was \$280. Almost all of the credit unions acted as agents for the sale of United States war bonds. Bonds sold to employees through credit unions totaled \$26,734,044 (issue value) as of January 1, 1947. The total cumulative number of loans made since organization of the credit unions was 157,732, in the amount of \$25,869,153.

Federal credit unions have been established in a diversity of industries: 25 cover employees on sugar plantations and mills; 10 cover employees in the pineapple plantations and canneries; 10 cover Government employees at Federal, Territorial, city, and county levels with an additional 6 credit unions among teachers; the wholesale and retail trade group has 7; manufacturing industries, 5; utilities, 5; transportation, 3; and military establishments, 4; with 6 separate unions covering civilian personnel at Pearl Harbor. The remaining 16 credit unions cover employees in miscellaneous industries and also include social and religious community groups and hospitals.

Average savings per member for credit unions on sugar plantations vary from a low of \$180 on Maui to \$292 on Hawaii. The average for all islands was \$249. In the pineapple industry, average savings per member vary from a low of \$190 on Kauai to \$567 on Maui, with an over-all average of \$333. The amount of United States bonds<sup>1</sup> sold to sugar employees through the credit unions totaled \$5,555,329 and the amount of United States bonds sold by the pineapple credit unions totaled \$2,726,136. In both instances these amounts exceed the total loans made since organization of these credit unions.

No estimate is available of the extent to which such bonds may have been cashed. However, the credit unions did not consider it advisable to act as agents for cashing bonds because the demand was of insufficient volume to warrant assuming this function.

The average savings per member in the sugar and pineapple plantation unions compared favorably with the average per member saving of \$264 in the six Pearl Harbor credit unions covering civilian employees.

The ratio of actual members to all employees eligible for membership was 53 percent in the sugar industry and 56 percent in the pineapple industry.

For the Territory as a whole, the average per member savings has increased steadily each year from \$57.50 as of April 1939 to \$280 as of January 1, 1946. The credit unions have become a primary source for supplying small-loan needs and a means for promoting savings among wage earners, having accumulated total assets of over \$11,000,000.

<sup>1</sup> Cost, not face or redemption value.

The sugar strikes in the autumn of 1946, the many smaller strikes, and the sharp decline in Federal employment (i. e., of civilian employees of the Army and Navy) have recently increased the credit needs of small borrowers; but the financial position of the credit unions has not been impaired.

The improvement in conditions affecting the small borrower during the past 15 years reflects the improvement in the political and economic position of labor. The credit position of small borrowers in general and laborers in particular has changed from an unprotected position permitting exorbitant rates to a legally protected position limiting interest to reasonable rates; from a dependence on small loan companies and exploitative "benevolent associations" to the present independent self-reliant position of the credit unions managed by the workers themselves.

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**PART IX**

**WORKING CONDITIONS AND EMPLOYMENT  
OPPORTUNITIES IN THE TERRITORY  
AS A WHOLE**

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## CHAPTER 27. STANDARDS OF LIVING

When Hawaii was annexed to the United States in 1898 the wage structure and the standards of living, although somewhat higher than those of oriental countries, were decidedly below the American standards.

There has been a continuous improvement since that time, but statistical measures for the purpose of comparing costs and standards of living are difficult to develop (1) because of widely differing racial cultures and living habits in Hawaii, and (2) because of the marked influence of climate on the pattern of family and social life.

Basic economic developments in Hawaii have been closely geared to the other parts of the American economy. The air lines, busses, motorcars, filling stations, and garages; the electrical power systems, water-supply systems, gas plants, and telephone exchanges; the mail-order houses, chain stores, motion-picture theaters, and banks of Honolulu are of the same character as those in any other comparable American city.<sup>1</sup> The mechanization of industry and the use of such household appliances as electric irons, refrigerators, and vacuum cleaners also follow the familiar American pattern.

But here the similarity ends. The daily pattern of food consumption, recreational activity, and social life of a worker in a typical Hawaiian office, mill, or plantation bears little resemblance to that of the office clerk, factory worker, or harvest hand on the mainland.

For over half a century there has been a gradual trend from various oriental modes toward an American pattern of living. This trend was sharply accelerated by the war, because all groups desired to show their loyalty to the United States (to be "as American as possible"), and because of the large number of returned veterans. There has never been a period in the history of Hawaii when the cultural gap between the older and the younger generation of orientals was greater, the shift in standards of living more rapid, or interracial marriages more prevalent, than at the present time. There is thus a complex mixture of standards in a range that extends from one extreme to the other and embraces every conceivable combination of Chinese, Japanese, Filipino, Korean, native Hawaiian, and American ways of living.

The effect of the climate on living conditions permeates every aspect of island life. The temperature of Hawaii averages 75.2 degrees. August and September are the warmest, and January and February the coolest months, but there is an average difference of only 6.5 degrees between these periods. The highest temperature ever recorded at sea level was 90 degrees in October 1891, and the lowest was 52 degrees in February 1902. Thus, throughout the entire year, Hawaii enjoys what would be considered, by mainland standards, to be good summer weather.

<sup>1</sup> Honolulu is roughly equal to Providence, R. I.; St. Paul, Minn.; or Portland, Oreg., in size.

In a typical Hawaiian house there is no basement or central heating system. Fuel is unnecessary except for cooking. House construction is light and is like that of summer-resort dwellings on the mainland. Many Hawaiian homes do not even have glass windows but depend on heavy venetian blinds to keep out the rain, since the temperature outside and inside is always the same. For similar reasons, overcoats, heavy underclothing, and seasonal changes in suits are not necessary.

Hawaiian life is an out-of-door life. In addition to reducing fuel and clothing costs, the climate greatly influences the character of other expenditures. Generally speaking, families in Hawaii are willing to make great sacrifices to own a car, since a car provides ready access to the many beaches, the mountains, and other recreational areas where much of their leisure time is spent. It also explains an unwillingness to make too great an expenditure on housing, since, for wage earners at least, a house is less often a place to entertain friends than the shore or the mountains. Over 90 percent of the homes in Hawaii are less than 20 minutes from a beach by car.

#### LIVING COSTS

Broadly speaking, present earnings of Hawaiian labor are comparable to earnings of labor in similar occupations on the mainland.<sup>2</sup> But the purchasing power of a dollar is somewhat lower in Hawaii. Between 1940 and 1948, the rise in the prices of consumers goods in the Territory closely paralleled the rise in the prices of consumers goods on the mainland, but on a distinctly higher level. Sixty-five percent of the food consumed in the Territory, and practically all of the clothing, shoes, household equipment, building materials, motor-cars, and other manufactured items are imported from the mainland; hence this continuing differential is partially due to higher shipping and handling costs. But the prices of many locally produced items, such as meat, dairy products, eggs, and poultry are also higher in Hawaii. A part of the price differential is due to the fact that production costs of some important consumer items are higher in Hawaii.

<sup>2</sup> There is a considerable range in mainland wages. The general level in Hawaii falls somewhat below that of the West Coast States, for example, but is above the general wage level of the Southern States. There are also considerable differences in the position of the wage structure of specific Hawaiian industries relative to the wage structure of similar mainland industries. This statement indicates merely that the level of wages throughout the Hawaiian economy is not out of line with the general level of the American economy as a whole.



TABLE 80.—Average retail food prices, June 1947, Honolulu and 56 mainland cities

Item	Unit	Average price		Honolulu price over mainland price
		Mainland cities <sup>1</sup>	Honolulu <sup>2</sup>	
<b>Beverages:</b>		<i>Cents</i>	<i>Cents</i>	<i>Percent</i>
Coffee, mainland.....	1 pound.....	45.5	60.9	34
Tea.....	¼ pound.....	24.3	31.5	30
Cocoa.....	½ pound.....	14.1	15.1	7
<b>Cereals and bakery products:</b>				
Flour, wheat.....	5 pounds.....	49.1	59.8	22
Macaroni.....	1 pound.....	19.6	25.8	32
Rice.....	do.....	17.3	13.0	-25
Rolled oats.....	do.....	14.1	17.5	24
Bread, white.....	do.....	12.5	15.0	20
Bread, whole wheat.....	do.....	13.8	15.0	9
Cookies.....	do.....	40.0	48.0	20
Soda crackers.....	do.....	24.7	24.0	-3
<b>Dairy products:</b>				
Butter.....	do.....	70.7	87.5	24
Cheese.....	do.....	55.2	72.7	32
<b>Milk:</b>				
Delivered.....	1 quart.....	18.5	23.0	24
Grocery.....	do.....	17.6	24.2	38
Evaporated.....	1½ ounces.....	12.6	15.2	21
Eggs: Eggs, fresh.....	1 dozen.....	63.4	112.4	77
<b>Fats and oils:</b>				
Shortening.....	1 pound.....	45.4	55.6	22
Salad dressing.....	1 pint.....	38.4	46.3	21
Oleomargarine.....	1 pound.....	40.3	49.6	23
Oil, cooking or salad.....	1 pint.....	45.7	58.8	29
Peanut butter.....	1 pound.....	36.4	47.0	29
<b>Fish: Salmon, pink, canned.....</b>	1-pound can.....	41.1	44.6	9
<b>Fruits:</b>				
Apples.....	1 pound.....	15.5	18.9	22
Bananas.....	do.....	15.1	11.1	-26
Peaches.....	No. 2½ can.....	32.4	33.8	4
Grapfruit juice.....	No. 2 can.....	10.7	17.9	67
<b>Meats:</b>				
Round steak.....	1 pound.....	78.0	75.8	-3
Rib roast.....	do.....	62.1	67.4	9
Chuck roast.....	do.....	50.6	57.2	13
Beef liver.....	do.....	62.2	65.4	5
Hamburger.....	do.....	43.9	56.4	28
Veal cutlets.....	do.....	84.2	77.5	-8
Pork chops.....	do.....	74.2	81.8	10
Bacon, sliced.....	do.....	72.3	88.5	22
Ham, sliced.....	do.....	93.1	105.7	14
Ham, whole.....	do.....	66.9	82.1	23
Sausage.....	do.....	51.9	74.3	43
Lamb, leg.....	do.....	66.3	75.7	14
Lamb, rib chops.....	do.....	76.4	78.4	3
Sugar: Sugar.....	do.....	9.7	10.6	9
<b>Vegetables:</b>				
<b>Vegetables, fresh:</b>				
Beans, green.....	do.....	17.8	22.9	29
Cabbage.....	do.....	7.8	7.5	-4
Onions.....	do.....	7.4	9.7	31
Potatoes, white.....	15 pounds.....	87.7	111.0	27
<b>Vegetables, canned:</b>				
Corn.....	No. 2 can.....	18.1	21.5	19
Peas.....	do.....	15.7	23.2	48
Soup, vegetable.....	11 ounces.....	14.1	17.6	25
Tomatoes.....	No. 2 can.....	20.3	21.6	6

<sup>1</sup> Bureau of Labor Statistics, U. S. Department of Labor.<sup>2</sup> Bureau of research and statistics, Territorial department of labor and industrial relations.

TABLE 81.—Consumers' price index for Honolulu, Mar. 15, 1943=100.0

Group	September 1947	June 1947	September 1946	September 1945	September 1944	September 1943
All items.....	129.5	126.2	115.6	104.6	102.9	100.9
Food.....	142.9	137.0	121.4	101.6	100.1	101.6
Clothing.....	120.7	119.5	110.5	102.3	97.3	98.7
Rent.....	105.4	( <sup>1</sup> )	101.5	99.7	100.1	100.2
Fuel, light, refrigeration.....	106.1	105.0	101.1	99.8	99.8	100.1
Housefurnishings.....	126.0	123.8	114.9	103.7	100.9	99.8
Miscellaneous.....	123.9	122.2	115.0	111.1	110.0	101.4
Transportation.....	111.8	108.3	105.2	95.6	95.6	95.0
Medical care.....	127.9	125.8	116.8	111.6	107.9	101.8
Household operation.....	124.9	125.9	105.2	104.2	103.8	101.4
Recreation.....	127.6	125.5	122.5	120.0	119.3	100.1
Personal care.....	126.1	126.8	119.9	120.6	120.5	118.3
	Percent change to September 1947					
All items <sup>2</sup> .....		2.6	12.0	23.8	25.8	28.3
Food.....		4.3	17.7	40.6	42.8	40.6
Clothing.....		1.0	9.2	18.0	24.0	22.3
Rent.....		( <sup>1</sup> )	3.8	5.7	5.3	5.2
Fuel, light, refrigeration.....		1.0	4.9	6.3	6.3	6.0
Housefurnishings.....		1.8	9.7	21.5	24.9	26.2
Miscellaneous.....		1.4	7.7	11.5	12.6	22.2
Transportation.....		3.2	6.3	16.9	16.9	17.7
Medical care.....		1.7	9.5	14.6	18.5	25.6
Household operation.....		-.8	18.7	19.9	20.3	23.2
Recreation.....		1.7	4.2	6.3	7.0	27.5
Personal care.....		-.6	5.2	4.6	4.6	6.6

<sup>1</sup> Not available.<sup>2</sup> In September 1947, the index was 29.5 percent above the base period of Mar. 15, 1943.

Source: Bureau of research and statistics, Territorial department of labor and industrial relations.

Table 80 provides a comparison between Honolulu and leading mainland cities in respect to the actual retail prices of certain foods; table 81 indicates the rise in basic consumer items in Honolulu (in terms of index numbers and percentages) from September 1943 to September 1947. A number of other price studies <sup>3</sup> have been made by unions, management organizations, and civic groups, but none of them was sufficiently broad to be conclusive.

The indexes in table 82 were calculated for Honolulu and Los Angeles, using prices collected in the two cities in March 1945. It was found that on the basis of comparative prices available for 112 equivalent commodities and services in the two cities, costs in Honolulu were 25 percent higher than in Los Angeles. The comparison is incomplete, because data on rents for comparable dwellings and prices of automobiles and other durable consumers' goods, like refrigerators and washing machines, were not available for the period covered.

<sup>3</sup> A comparison of the prices of a selected list of canned and packaged standard brands (thus eliminating qualitative differences) indicated that the price of such articles ranged from 11 percent to 51 percent higher in Hawaii than on the mainland, the median being 27 percent. This was a limited and specialized list of items, however, and cannot be considered valid as an indication of the over-all price differential between Hawaii and the mainland.

TABLE 82. *Relative differences in the cost of selected goods and services in Honolulu and Los Angeles, March 1945*

Commodity group	Indexes of cost of selected goods and services in Honolulu, March 1945 (costs in Los Angeles=100)	Number of items priced to identical specification in each city
Total specified groups.....	125	112
Food.....	135	50
Clothing.....	105	20
Other <sup>1</sup> .....	122	42

<sup>1</sup> Fuel, utilities, housefurnishings, transportation, medical and personal care, household operation, personal services, movies, newspapers, and tobacco. Rents and prices of automobiles and other durable goods are not included in the comparisons.

Source: Bureau of Labor Statistics, U. S. Department of Labor.

#### DIET AND HEALTH

##### *Health*

Hawaii presents many highly specialized problems to health authorities because of (1) its position as "the crossroads of the Pacific," (2) the heterogeneous mixture of races and customs, and (3) the high susceptibility of some racial elements to infectious diseases. Throughout the period from the time of the discovery of the islands until after their annexation in 1898, health conditions in Hawaii were distinctly bad. Ignorance on the part of imported plantation labor; the lack of hospitals, doctors, and nurses; and especially the lack of facilities for obstetrical care resulted in high death rates and an unusually high rate of infant mortality. From the turn of the century until the present time conditions have been continuously improved.

Five types of agencies are engaged in dealing with health problems: (1) Hospitalization and medical care is provided by many companies for their own employees. Plantation hospitals play a decidedly important role in the maintenance of health throughout the Territory. With the recent elimination of the perquisite system which made medical care freely available to all plantation workers and their families, there arises the problem of the maintenance of plantation health services. It is expected, however, that the introduction of a program for "group medicine" will make it possible to continue plantation medical service at present levels. (2) Charity funds provide for indigents and support organizations engaged in preventive work. (3) The health department of the city and county of Honolulu maintains an emergency hospital, provides medical service for the needy, and cooperates with the Territorial board of health in a health inspection service. (4) The Territorial board of health provides for the inspection of food and the maintenance of sanitation, including a bureau which compiles health data and vital statistics. (5) The United States Public Health Service quarantines communicable diseases against entrance into the Territory or their transmission to the mainland.

Considering the difficulties that must be faced, these agencies have made remarkable progress.<sup>4</sup> As an index of the advances that have been made, the infant mortality rate, which was 279.62 infant deaths per 1,000 live births in 1900, reached an all-time Territorial low in 1946 of 28.5 infant deaths per 1,000 live births.<sup>5</sup> This is one of the lowest rates ever recorded for any State or Territory. In the same year, stillbirths also reached an all-time low of 14.7 stillbirths per 1,000 live births and maternal mortality a corresponding low of 1.5 maternal deaths per 1,000 live births. The general mortality rate (which was 25.1 per 1,000 in 1900) is now only 6 per 1,000.<sup>6</sup>

Because of its position in the Central Pacific, there is a constant danger of the introduction of disease from trans-Pacific vessels. Three diseases carried by animal vectors must be especially watched: plague, typhus, and dengue fever. DDT is the principal means of controlling rat fleas in order to prevent the spread of plague and typhus. A mosquito-control program is maintained to prevent the spread of dengue fever.

In June 1946 there were 61 hospitals, 353 practicing physicians, and 207 practicing dentists in the Territory. The ratio of these figures to total population was not up to prewar standards but was roughly equivalent to postwar mainland standards. The mainland ratio of hospital beds to population, for example, ranged from a low of 1.8 beds per 1,000 in the South Central States to a high of 4.8 per 1,000 in the New England States. The ratio in Hawaii was 4.7 beds per 1,000.

These facts indicate that, with the possible exception of sewerage disposal,<sup>7</sup> Hawaiian health conditions compare favorably with mainland standards.

### *Diet*

Since medical services have attained a high level of efficiency and communicable diseases have been largely eliminated, the primary factor affecting the health of laborers in Hawaii is nutrition. Considering its size, Hawaii contains a remarkable variety of foods and of different customs in preparing and eating meals. This is a result of the mixture of the old native Hawaiian foods, Oriental edibles imported from Japan, China, Korea, and the Philippines, still others brought in by the Puerto Ricans and the Portuguese, and the usual American types of foods. The food standards of workers are dependent upon: (1) Earning power, (2) food costs, (3) the size of families, and (4) knowledge regarding nutrition and the proper balancing of diet.

<sup>4</sup> Subsequent to the preparation of this manuscript the board of health issued a report indicating that in 1947 there were 31.2 infant deaths per 1,000 live births; 15.7 stillbirths per 1,000 live births, and 1.2 maternal deaths per 1,000 live births. The general mortality rate remained constant.

<sup>5</sup> The United States Statistical Abstract for 1947 indicates that the average for the United States as a whole in 1945 was 38.3 infant deaths per 1,000 live births and 2.1 maternal deaths per 1,000 live births. General mortality rate in 1945 was 10.6 per 1,000 population (excluding armed forces overseas) for the United States as a whole.

<sup>6</sup> The resident death rate in 1946 would have remained at the record low of 5.8 recorded in 1945 if the tidal wave had not taken 142 lives.

<sup>7</sup> In Honolulu and the principal cities on the other islands sanitation is somewhat below the standard of the average American city. Some of the smaller plantation "camps" and the overcrowded areas in Honolulu lack proper sewerage disposal. 65 percent of the population of Honolulu is served by 270 miles of sewers. The remainder of the city depends on cesspools. A 5-year program to construct additional sewerage collection and sewerage disposal facilities at a cost of \$10,000,000 is to be undertaken by the city and county of Honolulu. The water supply of Honolulu is publicly owned—daily consumption averaging 38,000,000 gallons. New facilities are being installed to meet the increased demand resulting from the growth of the population of the city.

Wages have risen sharply, but the rise in food prices has at least partially offset increased wages. Because of high food costs, very large families sometimes suffer from malnutrition and unbalanced diet when the children are young. This is especially true of large plantation families. On the other hand, when the members of the family have reached the age at which they can obtain employment the situation is often reversed. Multi-worker families are common in Hawaii, and some large families receive a surprisingly large aggregate income.

The greatest impediment to a balanced diet for laborers in Hawaii is the tendency to overemphasize cereals, particularly rice. A general program for educating Hawaiian labor, led by Dr. Larson, of Queens Hospital, Honolulu, has resulted in a spread in the use of fresh vegetables, fruits, and milk. Studies indicate that a sharp decrease in the incidence and duration of disease can be achieved by a more balanced diet. Nevertheless, the consumption of protective foods such as fresh milk, cheese, fresh vegetables, and eggs is still somewhat below mainland standards.

### *Summary*

In comparison with mainland living standards, two disadvantages<sup>8</sup> of Territorial labor are clearly evident: (1) The cost of food is higher in Hawaii and the present per capita consumption of protective foods is below mainland standards. (2) Homes are less substantially constructed and the cost of building or buying a home is higher than it is on the mainland.

On the other hand, Hawaiian labor enjoys some distinct advantages: (1) Workers in the Territory are free from extremes of heat and cold which mainland workers must face; hence need not make the expenditures for fuel, heavy clothing, and other items necessary to adjust to seasonal changes. (2) They have more immediate daily access to beaches, mountains, and other recreational areas than has the typical mainland worker. (3) The per capita ownership of motor cars in Hawaii is high. (4) Schools, hospitals, and social-welfare services are equal to those of the average American community on all economic levels in Hawaii. The same is true of public services such as fire and police protection, bus and other public transportation services, and public recreational facilities. (5) In those industries that typically provide, elsewhere, only seasonal or casual employment (such as agriculture or building construction), Hawaiian labor enjoys a high degree of continuity of employment.

Everything considered, the material standard of living of Hawaiian labor is roughly equivalent to that of mainland labor in comparable work. Apart from strictly material standards, Hawaiian labor enjoys two significant advantages: (1) a higher level of year-round comfort; and (2) greater continuity of employment.

<sup>8</sup> Perhaps the greatest single disadvantage of Hawaiian laborers is their isolation. Many a Hawaiian worker has never seen any island in the Territory except the one on which he was born. Very few of them are able to afford the expense of traveling to any continental area. The schools, motion pictures, newspapers, and radio stations bring information regarding world events to the Territory, but the lack of any direct personal contact with the world outside of Hawaii gives these news reports an air of unreality. The insularity in the outlook and experience of the island-born Hawaiian worker is not an item that can be measured in terms of earnings or standards of living, but it is a disadvantage of which he is becoming increasingly aware.

## CHAPTER 28. EMPLOYMENT TRENDS AND NEW OCCUPATIONAL OPPORTUNITIES

In the past three-quarters of a century, the population of Hawaii has grown nearly tenfold, from a low of 56,897 in 1872 to 525,477 in 1947. Even assuming a stable population, the age distribution in Hawaii is such that the number of persons of working age will grow rapidly during the next few years. In view of the increasing pressure of population against the subsistence resources of the Territory and the trend toward mechanization on the sugar and pineapple plantations, there is need for the expansion of occupational opportunities through the development of new fields. Both of the plantation industries have reached near-optimum levels and there now appears little prospect of any significant further expansion in employment. As of 1947 the need for new occupational opportunities was strongly underlined by the sharp decline in Army and Navy employment of civilians, the return of war veterans resident in Hawaii, and a general decline in the number of job offerings.<sup>1</sup> Serious consideration is now being given to possible new developments to provide increased employment and to absorb the increasing numbers of island citizens who are coming into the working period of their lives. The following industries may possibly provide a basis for a limited expansion in employment opportunity:

TABLE 83.—Territorial employment service—Reception contacts, new applications, referrals, and placements, July 1, 1946, to June 30, 1947

Month and year	Reception contacts			New applications			Referrals			Placements		
	Total	Female	Veteran	Total	Female	Veteran	Total	Female	Veteran	Total	Female	Veteran
<b>1946</b>												
July.....	7,527	1,735	2,143	1,275	305	529	1,976	388	644	929	234	247
August.....	8,493	1,470	2,097	1,172	304	479	1,673	351	558	691	142	270
September.....	9,837	1,920	2,485	1,377	382	442	1,854	449	564	863	196	258
October.....	12,162	3,002	2,787	1,621	369	470	1,906	428	586	800	161	233
November.....	11,050	1,744	2,581	1,241	279	410	1,585	344	486	767	169	192
December.....	9,878	1,781	3,036	1,022	192	491	1,452	214	472	785	134	215
<b>1947</b>												
January.....	12,653	2,645	4,417	1,715	342	826	1,894	362	721	748	139	231
February.....	10,690	2,342	4,201	1,256	271	644	1,831	297	762	859	145	307
March.....	11,045	2,721	4,164	1,214	323	484	1,877	295	816	962	133	372
April.....	10,752	3,250	3,707	1,261	327	533	1,607	256	650	806	146	308
May.....	11,397	3,266	3,897	1,262	266	597	1,639	274	744	868	143	345
June.....	12,229	2,810	4,639	2,354	518	712	1,373	286	440	646	128	186
<b>Total.....</b>	<b>127,563</b>	<b>28,686</b>	<b>40,354</b>	<b>16,800</b>	<b>4,178</b>	<b>6,617</b>	<b>20,697</b>	<b>3,944</b>	<b>7,443</b>	<b>9,723</b>	<b>1,870</b>	<b>3,165</b>

Source: Territorial Department of Labor and Industrial Relations (which assumed responsibility in November 1946, when the authority of the Hawaiian office of the United States Employment Service was transferred to the Territory).

<sup>1</sup> Table 83, covering reception contacts for new applicants for jobs, indicates a sharp rise in unemployment during the year ended June 30, 1947. These figures are incomplete since they do not include unemployed persons who have not formally applied to the Employment Service. The experience of the Territorial department of public welfare shows unemployment to be even more critical than is indicated by official employment figures. Payments by the bureau of unemployment compensation for the year ended June 30, 1947, showed an increase of 520.7 percent over the previous year. This is not an accurate indication of the growth of unemployment, because a large part of this expenditure was due to the sugar strike, but even allowing for the strike, there still remained a significant rise in unemployment compensation payments.

By early 1948 unemployment was still increasing.

(1) *The tourist industry.*—During the war the Hawaiian tourist trade reached an all-time low. The prospects are, therefore, for a sharp revival as soon as local hotels and other facilities make that possible. The present thinking is toward (a) a gradual decentralization of the tourist business which has tended toward a high concentration in the Waikiki area in Honolulu; (b) the development of a chain of modern hotels on all islands; and (c) the sharp expansion of local tours from island to island, which have become possible at lower rates and in shorter periods of time because of the extensive development of interisland air service. It appears probable that the tourist business in Hawaii can be expanded to a point considerably above prewar levels. Because of the necessity of building new local facilities, this growth will necessarily be gradual. Everything considered, the expansion of tourist business is the most promising basis for the expansion of occupational opportunity in Hawaii during the next few years.<sup>2</sup> The tourist trade is a luxury trade, and, like other luxury items, is very sensitive to changes in basic economic conditions. In view of the postwar economic uncertainties in the United States and the world as a whole, the tourist trade of Hawaii must be considered as a fluctuating rather than a steady and dependable source of income. Territorial employment officials will find it necessary to recognize that, as the tourist business becomes a larger part of the total income of the Territory, it will intensify the ups and downs of prosperity and depression, that is, it will tend to be large in times of prosperity but will decline sharply in periods of depression when employment and income are most needed.

(2) *Government employment.*—There are four groups of government employees in Hawaii: (1) Territorial, (2) county, (3) Federal (employees of departments and agencies), and (4) military (civilian employees of the armed services).

(a) *Territorial employment.*—As of July 1, 1947, there were 4,467 permanent positions<sup>3</sup> in the tables of organization of Territorial agencies. Of these, only 3,956 were actually filled. Table 84 indicates the distribution of Territorial government employment by minimum monthly salary classifications as of March 31, 1947.

(b) *County employment.*—Employment in any of the four county governments requires a minimum of 3 years' residence in Hawaii plus 1 year in the county. The local government of the island of Oahu is known as "the city and county of Honolulu," and since over two-thirds of the population of the entire Territory live on Oahu, this government employs more persons than all of the other counties combined.<sup>4</sup> As of November 1947, there were 3,194 persons employed by the city and county of Honolulu as follows:

<sup>2</sup> A closely related type of income to the Territory is that which grows out of the expenditures of families which retire to Hawaii or for other reasons establish residence and purchase local goods and services with funds based on mainland incomes. This has not been a significant source of income to the Territory, but with the development of frequent and fast air transport service to the mainland it may become important.

<sup>3</sup> This does not include the department of public instruction, which numbered approximately 3,700 as of November 1947. Of these, 660 were men and 3,040 were women. Four hundred and eighty held civil-service office positions in various classifications and 3,220 were teachers. Over nine-tenths of the teachers held permanent or limited term positions. Slightly less than one-tenth were employed under the "emergency teachers agreement" which was subject to cancellation on 1 week's notice. Because the appropriation for the department of public instruction was less than had been anticipated, transfers and reductions in force were being made in the latter part of 1947; hence employment was being reduced at the time this estimate was made.

<sup>4</sup> As of December 31, 1947, the total estimated employment in the county government of Hawaii was 605 (not including 37 part-time employees), in the county government of Maui was 938, and in the county government of Kauai was 389 (not including 140 non-civil-service employees). The salary schedule and distribution of employment was similar to that of the city and county government of Honolulu.

TABLE 84.—Territorial government employment<sup>1</sup> as of Mar. 31, 1947

Classification	Minimum salary <sup>2</sup>	Number employed	Classification	Minimum salary <sup>2</sup>	Number employed
<b>Professional:</b>			<b>Subprofessional:</b>		
P-1.....	\$192.50	20	SP-2.....	\$127.50	27
P-2.....	237.50	44	SP-3.....	142.50	98
P-3.....	295.42	42	SP-4.....	157.50	194
P-4.....	342.08	57	SP-5.....	174.17	117
P-5.....	436.67	29	SP-6.....	192.50	196
P-6.....	520.00	31	SP-7.....	212.92	102
P-7.....	645.00	15	SP-8.....	237.50	36
<b>Clerical-Administrative-Fiscal:</b>			<b>Craft and custodial:</b>		
CAF-1.....	127.50	81	CC-1.....	80.00	2
CAF-2.....	142.50	304	CC-2.....	112.50	85
CAF-3.....	157.50	346	CC-3.....	122.50	131
CAF-4.....	174.17	231	CC-4.....	132.50	472
CAF-5.....	192.50	169	CC-5.....	147.50	200
CAF-6.....	212.92	98	CC-6.....	162.50	233
CAF-7.....	237.50	109	CC-7.....	177.50	154
CAF-8.....	264.50	103	CC-8.....	192.50	86
CAF-9.....	295.42	71	CC-9.....	212.92	36
CAF-10.....	328.75	66	CC-10.....	237.50	16
CAF-11.....	362.08	32	CC-11.....	264.58	11
CAF-12.....	436.67	45	CC-12.....	295.42	10
CAF-13.....	520.00	25	CC-13.....	328.75	0
CAF-14.....	645.00	11	CC-14.....	362.08	6

<sup>1</sup> In addition to the 4 classifications given here, there were 166 inspectors, 58 of whom were classified as IN-4 with a minimum salary of \$212.92 (not including a \$45 monthly bonus).

<sup>2</sup> Excluding a bonus of \$45 per month. As of July 1, 1947, this bonus was incorporated in the regular salary schedule and a bonus of \$25 per month was added. Thus \$70 per month should be added to the minimum salary of every classification to obtain the rates after July 1, 1947. Employment in the Territorial government requires a minimum of 3 years residence in Hawaii.

Source: Territorial civil service commission.

(i) 143 professional employees (such as engineers, doctors, lawyers, and librarians), the largest classification being P-3 with a minimum salary of \$365 per month, including a \$25 monthly bonus.

(ii) 220 subprofessional employees (such as nurses, social workers, hospital attendants, laboratory assistants, and recreational workers).

(iii) 360 clerical, administrative, and fiscal employees (such as clerks, stenographers, typists, accountants, and administrators), the largest single group (75) being CAF-3, earning a minimum of \$242 per month, including a bonus of \$25.

(iv) 1,889 craft and custodial employees (such as janitors, maintenance men, guards, and park keepers), the largest single group (700) being CC-4, earning a minimum of \$202 per month, including a \$25 bonus.

(v) 774 police and fire department employees (not included in the above classifications), 500 of these being in the police department. Patrolmen and hosemen were the largest classifications with earnings of \$280 per month, including a \$25 monthly bonus.

(c) *Federal Government employment.*—Branch offices of Federal agencies, other than the Army and Navy,<sup>5</sup> employed an estimated 6,000 persons during the wartime peak which occurred in March 1945. There was a decline to approximately 4,450 by November 1947. On the basis of total employment, the largest Federal agencies in the Territory were (1) the Civil Aeronautics Administration (which expanded rapidly throughout 1946-47), (2) the Treasury Department (the most important subdivision being the Bureau of Internal Revenue),

<sup>5</sup> The Army and Navy provided the largest Federal employment of civilians in Hawaii, as discussed in the section on "The Economic Effects of the War," ch. 2 of this report.



(3) the War Assets Administration, and (4) the Department of Agriculture.

The trend in Government employment between 1945 and 1948 was downward, because of the return from wartime to normal levels, but there are two reasons for assuming that the general level of employment in Government offices will remain somewhat higher than it was before the war: (1) The increase in the population and in the importance of the economic activities of the Territory will necessitate a somewhat larger administrative organization. (2) The increased importance of Hawaii as a military outpost will require the employment of a larger number of civilians by the armed forces than were employed before the war.

Although Government agencies provide a significant portion of the total employment in Hawaii, future increases cannot be considered as to future unemployment problems, since the expansion of Government employment is a result rather than a cause of basic economic growth.

(3) *Nonplantation agriculture.*—With the decline in the acreage in sugarcane and the increase in the population of the Territory, the possibility of expanding vegetable crops to meet local requirements has grown. The adoption of large-scale techniques, of air freight planes for quick transport of produce to Honolulu, and of better marketing procedures has already made it possible for island-grown products to compete more effectively with those of the west coast. The primary impediment to a significant expansion in this field is the lack of irrigation water. This is recognized and Government projects designed to increase the area and efficiency of truck gardening are being urged by experts in this field.

(4) *Fishing.*—Fishing offers two separate sources of income to the Territory: (1) The exploitation of fishing as a sport, and (2) the commercial exploitation of fishing in the central Pacific<sup>6</sup> as a basis for an export industry in canned fish.

Although fishing in the Hawaiian area is recognized as being unusually good from the sportsman's point of view, this field of recreation has not been developed to the point that it provides a significant income to the Territory. Convenient air connections with the mainland and the growth of facilities in the best fishing areas may result in an expansion of fishing as a sport on a luxury level.

Commercial fishing, on the other hand, is already well-developed, the most important single product being canned tuna. This industry was making solid progress prior to the war and gross annual sales exceeded \$1,200,000, making canned fish the third largest export from Hawaii. The military restrictions necessitated by the war caused a temporary eclipse of the industry and during the postwar period labor difficulties have been a serious impediment to a return to prewar levels.

Hawaii is in a position to exploit fishing areas not readily available to other fishing fleets, and it is probable that a gradual expansion in this field will eventually offer more occupational opportunities in the catching, processing, and marketing of fish. As yet it represents less than 1 percent of the total employment in the Territory.

<sup>6</sup> The University of Hawaii and the Department of the Interior are currently making extensive studies of marine life which indicate some of these possibilities.

(5) *Other possibilities.*—In addition to the occupational possibilities noted above, there are a number of minor developments which offer some promise. Although none of them is of primary importance, taken in the aggregate they are a significant addition to island industry. Among these are handicrafts and manufactures that turn out distinctly Hawaiian products, such as (a) lauhala ware; (b) perfume manufacture, which specializes in the aroma of the more exotic of the island flowers; (c) woodenware and wood carving, based on types of wood which are uniquely Hawaiian; (d) orchids and other flowers designed to develop a rapidly expanding market by air on the mainland; and (e) the production of garments typical of Hawaii, such as aloha shirts and beachwear. Because of the tourist trade, there is a larger volume of local business and of exports to the mainland in these items than would otherwise obtain.

Hawaii is the only place where the Macadamia nut has been developed on a commercial basis. Because of its unusual flavor, it is possible to develop a limited export market on a luxury level, but the job offerings in this field will necessarily remain limited.

Repeated, but only partially successful, efforts have been made to develop and expand export markets for such fruits as bananas, guava, papaya, and mangoes. The high unit costs due to insect pests and plant diseases, high wages, and the expenses of packaging, transporting, and marketing in distant mainland areas have made it difficult to produce and sell these items at competitive prices. Until new technical developments have established less expensive methods of producing, preserving, and marketing, it does not appear likely that there will be more than a gradual and fairly limited expansion of production in these fields. Fruits generally require special conditions for growth which are available only in certain areas and at certain altitudes. The limitation in the quantity of land which is favorably situated for fruit cultivation also limits future expansion.

These observations indicate that the possibilities of increasing occupational opportunities in Hawaii have not been exhausted. Barring some new and unexpected technical developments, however, they appear to be rather limited. Should the rate of population growth in Hawaii continue at the rate of the past two decades, the pressure of population against subsistence resources and available employment opportunities may be expected to rise sharply.