

PUERTO RICO



CENTRAL LAFAYETTE

LANDS BELONGING TO CENTRAL LAFAYETTE IN THE MUNICIPALITIES OF ARROYO, PATILLAS AND MAUNABO



HEALTH AND SOCIO-ECONOMIC STUDIES IN PUERTO RICO

I. HEALTH AND SOCIO-ECONOMIC CONDITIONS ON A SUGAR CANE PLANTATION.*

By P. MORALES OTERO, MANUEL A. PÉREZ, R. RAMÍREZ SANTOS, RAFAELA ESPINO,
ADRIANA RAMÚ, J. L. FUSTER, DOLORES GONZÁLEZ and MARIO MARRERO.

*From the Health Division, Puerto Rico Reconstruction Administration and the
School of Tropical Medicine, San Juan, Puerto Rico.*

CONTENTS

INTRODUCTION

PURPOSE

PROCEDURE

HEALTH

GROWTH OF POPULATION.

NUMBER AND DISTRIBUTION OF INHABITANTS.

AGE DISTRIBUTION.

COLOR AND SEX DISTRIBUTION.

HOUSING PROBLEM.

Ownership of homes; Rooms per dwelling; Ventilation; Light; Cleanliness; Furniture; Bath.

WATER SUPPLY.

DISPOSAL OF HUMAN EXCRETA.

NUISANCES.

THE NUTRITIONAL PROBLEM.

Milk supply; Deficiency diseases.

HEALTH AND MEDICAL AGENCIES.

GENERAL HEALTH CONDITIONS.

Prevailing diseases; General mortality; Mortality from important causes; Infant and maternal mortality; Birth and stillbirth rates; General morbidity; Relationship of patients to householders; Duration of sickness; Medical attendance.

* Received for publication April 5, 1937.

HEALTH— <i>Continued</i>	THE MALARIA PROBLEM	Description of malarial places; Malaria morbidity; Types of malaria; Length of residence; Former residence of patients; Use of mosquito nets; History of previous attacks; Spleen index; Geographical distribution of cases.
	INTESTINAL PARASITES	
SOCIAL CONDITIONS	TUBERCULOSIS	Sputum; Tuberculin test.
	SYPHILIS	
	SIZE OF FAMILIES.	
	LENGTH OF RESIDENCE.	
	TYPES OF FAMILIES.	Normal families; Broken families; Age composition of families.
	MARITAL CONDITIONS.	
	MALE POPULATION.	
	FEMALE POPULATION.	
	SINGLE POPULATION.	
	MARRIED POPULATION.	
ECONOMIC CONDITIONS	EDUCATION.	
	SOCIAL PROBLEMS.	Illiteracy; Illegitimacy; Alcoholism; Desertion; Separation.
	RELIGION	
	USE OF SHOES	
	LEISURE TIME	
	ORGANIZATIONS	
	ECONOMIC CLASSIFICATION OF HOUSEHOLDERS	Gainful workers in families; Gainfully occupied workers.
	OCCUPATION AND WAGE RATES	
	TIME WORKED DURING THE YEAR	
	ANNUAL EARNINGS FROM WAGES	
SUMMARY APPENDIX	ANNUAL INCOMES OF FAMILIES	
	DISTRIBUTION OF INCOMES	Budgetary surpluses or deficiency.
	FAMILIES HAVING LAND UNDER CULTIVATION	
	PROPERTY OWNED BY FAMILIES	
	ACCUMULATED DEBTS OF FAMILIES	

INTRODUCTION

The creation of a Health Division within the Puerto Rico Reconstruction Administration to cope with the health and sanitary problems involved in the several P.R.R.A. projects, and to take care of the physical examination and medical treatment of its workers, has given us the unique opportunity to study the health and socio-economic conditions in the rural sections of Puerto Rico. Such studies have been under way for the last 18 months, covering the sugar cane, coffee, citrous fruit and tobacco regions.

The present report will cover existing conditions in a sugar-cane area only.

To initiate its sugar program, the Puerto Rico Reconstruction Administration acquired Central Lafayette, a sugar mill, situated in the southeastern part of the Island. The sugar mill, or factory, is located close to the town of Arroyo; the sugar-cane plantations and pasture lands, with an extent of some 18,000 acres, cover a great part of the rural portions of the municipality of Arroyo and of the adjoining municipalities of Patillas and Maunabo. A farm of 273.4 acres is located in the municipality of Guayama; another of 83.14 acres is located in the municipality of Yabucoa.

The term *central* may be briefly defined as the sugar mill and the plantations and lands, either property of the central or leased to it, which provide the sugar cane to be ground in the mill. Central Lafayette consists of some 10,000 acres of land, property of the Central, and some 8,000 acres leased to individual owners. The investigation was limited to the property of the Central, except the farms at Guayama and Yabucoa. Conditions on the leased lands were not investigated.

The Central is composed of a number of *colonias*, indicating groups of farms known by a definite name and under some form of autonomous management. There are eight of these colonias in Central Lafayette, including the site on

which the sugar mill is established, where sixty-nine families live, and which has been called Colonia Lafayette, for the purpose of this study. Colonia Perú, in which only four families live, has been put together with the adjacent Colonia Providencia, to form the group "Providencia-Perú".

Thus, the surveyed area comprises the following colonias:

Municipality	Name of Colonia	Size in Acres
		(Approximate)
Arroyo.....	Palmas 4 Calles..... Enriqueta-Concordia..... Lafayette.....	2,539.05
Patillas.....	Felicitá..... Catalina..... Providencia-Perú.....	4,225.90
Maunabo.....	Geronne..... Bordelaise.....	2,934.12
Total.....		9,699.07

Most of the land is rich, alluvial plain, suitable for sugar cane cultivation, with a number of hills scattered here and there. Some of the land by the seacoast is at a mean tide elevation, for which reason there exist some areas of mangrove and swamp lands which give rise to the formation of mosquito breeding places.

PURPOSE

With the idea of obtaining information of existing health and sanitary conditions and to get an insight into the way in which people get along with the resources and facilities at their disposal, we decided to conduct a health and socio-economic survey of the area covered by Central Lafayette and its plantations. The objectives of the survey may be briefly summarized as follows:

1. To ascertain the health and socio-economic condition of the people living at Central Lafayette at the time it was acquired by the Puerto Rico Reconstruction Administration.

2. To use the findings of the survey as a possible index of conditions existing in the rural areas of Puerto Rico, especially in those in which the main source of wealth is the sugar-cane industry.
3. To have a basis for comparison with future surveys that may be undertaken from time to time.

PROCEDURE

The field investigation was carried out by sanitary inspectors, trained nurses and social workers, who canvassed every house in the surveyed area to collect the necessary data. When a sick person was found in the house visited, the doctor in charge was called to make a diagnosis. Those persons were considered sick who were lying in bed with more or less acute symptoms of any disease, or who were incapacitated for work. In these visits, the sanitary inspector recorded the sanitary condition of the house and its surroundings; the nurse observed the condition of the dwelling, took diagnostic specimens and filled out morbidity forms that were handed over to the physician who visited the homes where sick persons were; the social worker made inquiries into social and economic problems, collected data on education, religion, occupations, weekly earnings, and other pertinent details regarding individual members in each family. Besides this, information was obtained about the family as a whole, with respect to the house, furniture, land, livestock, food consumed, income and distribution of same, debts, etc.

HEALTH

We shall examine now the health and sanitary conditions prevailing at the time of the investigation, taking first some pertinent data regarding the population.

Population:

The table below (table 1) demonstrates that the population of Arroyo, Patillas and Maunabo has not increased as rapidly as the population of Puerto Rico as a whole during the quarter of a century from 1910 to 1935.

TABLE 1

GROWTH OF THE POPULATION OF ARROYO, PATILLAS AND MAUNABO
AS COMPARED WITH THE GROWTH OF THE POPULATION
OF PUERTO RICO: 1910-1935

Municipalities	1935	1910	Increase	
			No.	Per Cent
PUERTO RICO.....	1,723,534	1,118,012	605,522	54.2
Urban.....	575,802	291,443	284,359	97.6
Rural.....	1,147,732	826,569	321,163	38.8
THE 3 MUNICIPALITIES.....	35,360	28,494	6,866	24.1
Urban.....	8,055	6,400	1,655	25.8
Rural.....	27,305	22,094	5,211	23.6
ARROYO.....	9,242	6,940	2,302	33.2
Urban.....	4,446	3,220	1,226	38.1
Rural.....	4,796	3,720	1,076	28.9
PATILLAS.....	15,723	14,448	1,275	8.8
Urban.....	2,265	2,228	37	1.7
Rural.....	13,458	12,220	1,238	10.1
MAUNABO.....	10,395	7,106	3,289	46.3
Urban.....	1,344	952	392	41.2
Rural.....	9,051	6,154	2,897	47.1

The changes in urban population from 1910 to 1935 have resulted in increases of 38.1 per cent in Arroyo, 1.7 per cent in Patillas and 41.2 per cent in Maunabo, as compared with an increase of 97.6 per cent for the urban population of Puerto Rico during the same period. As for the rural population, the increase has been 28.9 per cent in Arroyo, 10.1 per cent in Patillas and 47.1 per cent in Maunabo, in comparison with 38.8 per cent for Puerto Rico as a whole.

This relatively slow growth of the population is, at least in two of the three municipalities (Maunabo and Patillas), a contrast to their natural increase, as evidenced by the difference between births and deaths (table 2). This difference shows higher rates of increase than those registered for Puerto Rico, suggesting somewhat heavy emigrations from the area. The markedly low population growth of Patillas may be accounted for by these migratory movements, part of which probably have been directed towards Arroyo, which, having the lowest rate of natural increase of the three municipalities, has a relatively high population growth.

TABLE 2

AVERAGE BIRTH AND DEATH RATES* AND RATES OF NATURAL INCREASE, FOR MUNICIPALITIES OF ARROYO, PATILLAS AND MAUNABO, AND FOR PUERTO RICO: 1931-1935

Area	Average Birth Rates 1931-1935	Average Death Rates 1931-1935	Rates of Natural Increase
PUERTO RICO.....	39.7	20.3	19.4
THE 3 MUNICIPALITIES.....	41.5	21.3	20.2
Arroyo.....	38.4	21.9	16.5
Patillas.....	42.4	22.0	20.4
Maunabo.....	43.8	20.0	23.6

*All rates per 1,000 population, according to the censuses of 1935 and 1930.

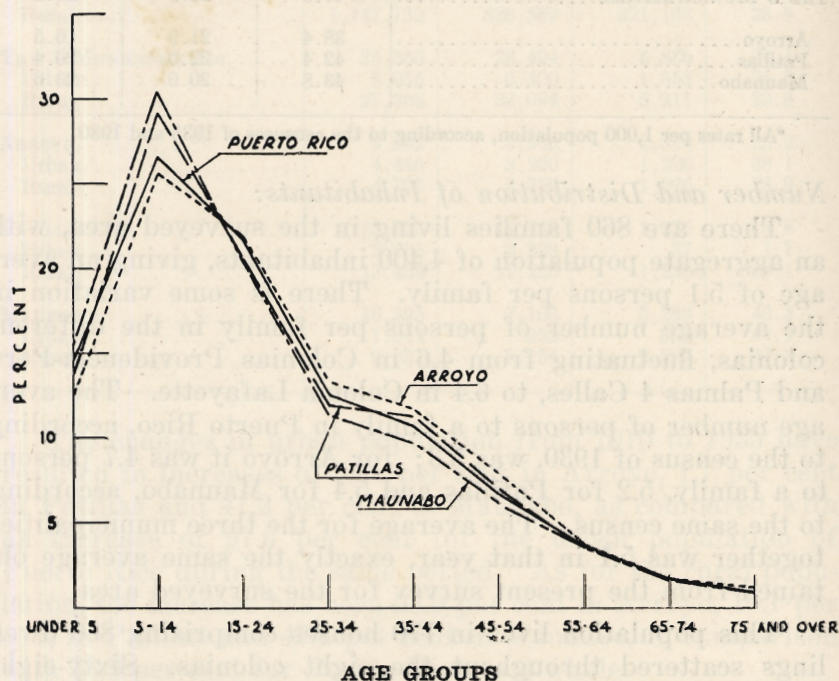
Number and Distribution of Inhabitants:

There are 860 families living in the surveyed area, with an aggregate population of 4,400 inhabitants, giving an average of 5.1 persons per family. There is some variation in the average number of persons per family in the different colonias, fluctuating from 4.6 in Colonias Providencia-Perú and Palmas 4 Calles, to 6.4 in Colonia Lafayette. The average number of persons to a family in Puerto Rico, according to the census of 1930, was 5.3; for Arroyo it was 4.7 persons to a family, 5.2 for Patillas and 5.4 for Maunabo, according to the same census. The average for the three municipalities together was 5.1 in that year, exactly the same average obtained from the present survey for the surveyed area.

This population lives in 770 houses comprising 860 dwellings scattered throughout the eight colonias. Sixty-eight buildings are composed of adjoining quarters in which 158 families live. Fifty-eight of these buildings are for two families, seven for three families, one for four, one for eight, and one for nine families. The average number of persons per house is 5.7 and the average number of persons per dwelling 5.1. This compares with the average of 5.9 persons to a dwelling for the whole Island according to the census of 1930, and with averages of 5.0, 5.4 and 5.6 persons to a dwelling for Arroyo, Patillas and Maunabo, respectively, according to the same census; the average for the three municipalities in 1930 was 5.3 persons to a dwelling.

Age Distribution:

The age distribution of the population in the surveyed area presents some points worth noting. In the first place, the very high proportion of children under 5 years of age, who constitute 16.7 per cent of the total population of the surveyed area, as compared with 14.6 per cent of the general population of Puerto Rico (1930). In the same year the proportion of children under 5 years in the population of the United States was 9.3 per cent. That is, the population



Percent distribution of the population of Puerto Rico, Arroyo, Patillas and Maunabo, 1930.

under 5 years of age in the surveyed area is 14.4 per cent higher than the population of the same age in the general population of Puerto Rico, and 79.6 per cent higher than the population of the same age in the general population of the United States. Secondly, the sharp drop of the population in the age group 25-29 years, and the still lower proportion of the population in the following group, 30-34 years. Normally the population within these groups of age should be much higher. The drop in these two age groups is greater than

that shown in the same ages by the population of the three municipalities (Arroyo, Patillas and Maunabo) and by the population of Puerto Rico as a whole in the census of 1930.

To show the great differences pointed out above, we are presenting in percentage form the age distribution of the population of the surveyed area together with the age distribution of the population of Puerto Rico and of the United States in 1930 (table 3).

TABLE 3

PERCENTAGE DISTRIBUTION BY AGE GROUPS OF THE POPULATION IN THE SURVEY AREA, PUERTO RICO AND UNITED STATES

Age Group	Survey Area	Puerto Rico	United States	% difference between survey area and P. R.	% difference between P. R. and U. S.
ALL AGES.....	100.0	100.0	100.0
Under 1 year.....	3.9	2.8	1.8	+39.3	+55.6
1-4 years.....	12.8	11.8	7.5	+8.5	+57.3
5-9 years.....	13.7	14.5	10.3	-5.5	+40.8
10-14 years.....	12.7	12.9	9.8	-12.9	+31.6
15-19 years.....	11.3	12.0*	9.4	-5.8	+27.6
20-24 years.....	11.4	9.7	8.9	+16.5	+9.0
25-29 years.....	5.9	6.5	8.0	-9.2	-18.8
30-34 years.....	4.9	6.1	7.4	-19.0	-17.6
35-44 years.....	11.0	10.7	14.0	+1.9	-23.6
45-54 years.....	6.9	6.7	10.6	+4.5	-36.8
55-64 years.....	3.5	3.6	6.9	-2.8	-47.8
65 years and over.....	1.8	2.6	5.4	-30.8	-51.8

It should be noted, further, that the Puerto Rican populations—those of the surveyed area and of Puerto Rico as a whole—are consistently much higher in all ages below 25 years and consistently much lower in all ages above 25 years, than the population of the United States.

Color and Sex Distribution:

The population in the surveyed area, as to color, is 1,926 white persons, or 43.8 per cent of the total, and 2,474 colored persons (including negroes and mulattoes), or 56.2 per cent of the total (table 4). In the census of 1930 the race distribution of the population for the three municipalities of Arroyo, Patillas and Maunabo was 48.7 per cent white persons and 51.3 per cent colored persons. It may be observed that proportionately more colored persons are found in the present survey. The race distribution for the population of Puerto Rico as a whole, according to the census of 1930, was 74.3 per cent white and 25.7 per cent colored (appendix 1).