

GOVERNMENT OF THE PHILIPPINE ISLANDS  
DEPARTMENT OF COMMERCE AND COMMUNICATIONS  
BUREAU OF COMMERCE AND INDUSTRY

# STATISTICAL BULLETIN

## No. 1

DEVOTED TO THE COMMERCIAL AND INDUSTRIAL  
DEVELOPMENT OF THE PHILIPPINE ISLANDS, COM-  
PILED FROM OFFICIAL RETURNS AND OTHER  
SOURCES, AND PUBLISHED

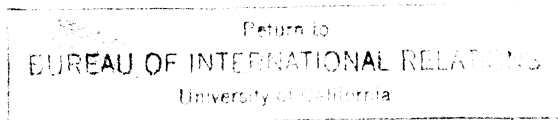
BY THE

BUREAU OF COMMERCE AND INDUSTRY



HON. DIONISIO JAKOSALEM  
Secretary of Commerce and Communications

JAMES J. RAFFERTY  
Director, Bureau of Commerce and Industry



MANILA  
BUREAU OF PRINTING  
1918

## CONTENTS.

	Page.
Preface .....	5
1. Population by provinces, arranged in order of density.....	7
2. Immigration and emigration of aliens.....	8
3. Value of most important imports.....	9
4. Monthly imports of rice.....	11
5. Annual imports of rice.....	12
6. Thirteen greatest importing countries.....	14
7. Annual exports of hemp.....	15
8. Annual exports of copra.....	17
Copra and copra products in the Philippine Islands by H. W. Foster, Commercial Agent of the Bureau of Commerce and Industry .....	19
9. Annual exports of sugar.....	25
10. Annual exports of cigars.....	27
11. Thirteen countries receiving the greatest exports.....	29
12. Value of the most important exports.....	30
13. Foreign trade of the Philippine Islands.....	32
14. Foreign trade and trade balance.....	32
15. Comparison of monthly foreign trade.....	33
16. Trade with the United States.....	35
17. Foreign trade of important countries.....	36
18. Commercial relation of important countries with the Philippine Islands .....	37
19. Oriental trade of the Philippine Islands.....	38
20. Internal revenue licenses issued (domestic trade).....	39
21. Tonnage of foreign and domestic shipping.....	40
22. Freight rates of chief commodities from Manila to important Insular ports.....	41
23. Passenger rates from Manila to important Insular ports.....	42
24. Land transportation (Manila Railroad Company).....	42
25. Automobiles registered .....	43
26. Trucks registered .....	44
27. Rice mills and their capacities.....	45
28. Cigar production and tax collected.....	46
29. Cigarette production and tax collected.....	46
30. Distilled spirits production and tax collected.....	47
31. Factories, and laborers engaged, in the city of Manila.....	48
32. Areas of the larger islands in the Philippine Archipelago.....	49
33. Annual disposition of public lands.....	50
34. Area of land cultivated and average yield per hectare of im- portant crops .....	51
35. Quantity and value of principal crops produced.....	53
36. Consumption of rice in the Philippine Islands.....	54
37. Production and consumption of rice by provinces.....	55
38. Production of rice by provinces.....	56
39. Production of hemp by provinces.....	58
40. Production of sugar by provinces.....	60

	Page.
41. Production of copra by provinces.....	62
42. Production of coconut oil by provinces.....	64
43. Production of tobacco by provinces.....	66
44. Monthly average prices of important crops in the Manila market.....	68
45. Livestock in existence in the Philippine Islands.....	69
46. Livestock in existence in the provinces.....	69
47. Utilization of forest products.....	70
48. Utilization of minor forests products.....	71
49. Domestic corporations classified according to nature of business....	72
50. Domestic corporations showing year of incorporation.....	73
51. Domestic corporations by provinces where headquarters are located .....	74
52. Foreign corporations registered in the Philippine Islands.....	76
53. Partnerships registered in the Philippine Islands.....	77
54. Resources and liabilities of all commercial banks.....	78
55. Summary of the transactions of the Postal Savings Bank.....	80
56. Philippine currency in circulation.....	81
57. Revenue from taxation.....	82
58. Functional activities of the Insular government.....	83
59. Financial condition of the Insular government.....	84
60. Bonded indebtedness of the Insular government.....	85
61. Reserve fund for the redemption of the bonded indebtedness of the Insular government.....	86
62. Real estate property and tax in the Philippine Islands.....	87
63. Health statistics of the Philippine Islands.....	88
64. Infant mortality in the Philippine Islands.....	88
65. Health statistics of the city of Manila.....	89
66. Public education .....	90
The Philippine Public School System, by Dr. W. W. Marquardt, Director of Education.....	91
67. Expenditures for public education.....	102
68. Roads in existence.....	102
69. Artesian wells drilled.....	103
70. Postal and telegraph service.....	103
71. Registered mail handled by all post offices.....	103
72. Money orders .....	104
73. Meteorological data for Manila Observatory.....	105
The Climate of the Philippines by Rev. José Algué, S. J., Director of the Weather Bureau.....	106

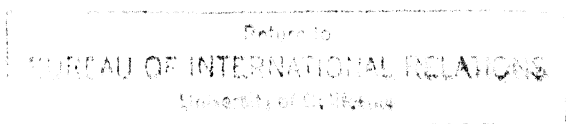
## PREFACE.

This is the first issue of a bulletin which the Bureau of Commerce and Industry will publish from time to time. Its aim is to furnish those who are interested in the economic development of the Islands with reliable data on the commercial and industrial development of this country.

Prepared at a time when the Bureau has not yet been completely organized, thus handicapped by the lack of necessary facilities, this first issue cannot claim perfection. With the coöperation, however, of other government bureaus and offices and the support of the general public whose criticisms and suggestions are always welcome, it is hoped that every subsequent issue will be a decided improvement over the previous one.

Acknowledgments are due the various bureaus and offices of the government for the valuable assistance rendered our statistical staff in connection with the preparation of this bulletin. Special mention is hereby made of Dr. W. W. Marquardt, Director of Education, and Father José Algué, S. J., Director of the Weather Bureau, for their contributions, the value of both of which has increased the usefulness of this bulletin to the people for whom it is intended.

FIDEL A. REYES,  
*Acting Director.*



# STATISTICAL BULLETIN DEVOTED TO THE COMMERCIAL AND INDUSTRIAL DEVELOPMENT OF THE PHILIPPINE ISLANDS.

TABLE NO. 1.—*Population of the Philippine Islands by provinces arranged in order of density.*

Province.	Area <sup>a</sup>  <i>Sq. miles.</i>	Population.					
		1903 <sup>b</sup>		1915 <sup>c</sup>		1918 <sup>d</sup>	
		Number.	Per square mile.	Number.	Per square mile.	Number.	Per square mile.
City of Manila	20	219,928	10,996	266,246	13,312	280,460	14,023
La Union	350	137,839	217	148,459	424	156,390	447
Cebu	1,867	653,727	337	727,955	390	766,830	411
Ilocos Sur	442	187,411	398	170,877	387	180,000	407
Cavite	464	134,779	218	157,477	339	165,890	358
Pampanga	823	223,754	258	270,070	328	284,500	346
Pangasinan	1,944	397,902	334	535,025	275	563,600	290
Bulacan	1,007	223,742	191	251,249	250	264,790	263
Laguna	722	148,606	236	175,401	243	184,770	256
Batangas	1,270	257,715	215	286,643	226	301,950	246
Iloilo	2,040	410,315	202	454,911	223	479,200	235
Bohol	1,536	269,223	178	307,914	200	324,360	211
Rizal	913	150,923	206	180,527	198	190,170	208
Albay	1,543	240,326	135	292,157	189	307,760	201
Misamis	1,030	175,683	47	177,128	172	186,590	181
Capiz	1,710	230,721	132	286,927	168	302,250	177
Antique	964	134,166	118	159,870	166	168,410	175
Leyte	3,005	388,922	129	478,480	159	504,030	168
Ilocos Norte	1,293	178,995	135	185,446	143	195,350	151
Tarlac	1,178	135,107	112	167,738	142	176,700	150
Oriental Negros	1,902	201,494	108	265,202	139	279,360	147
Occidental Negros	3,125	308,272	98	414,113	133	436,230	140
Romblon	497	52,848	92	66,113	133	69,640	140
Batanes	74			8,685	117	9,160	124
Bataan	480	46,787	87	51,267	107	54,000	112
Ambos Camarines	2,851	239,405	73	293,012	103	308,660	108
Sorsogon	2,274	164,160	71	201,050	88	211,790	93
Nueva Ecija	2,069	134,147	62	168,026	81	177,000	86
Zambales	1,421	104,549	49	110,634	78	116,540	82
Cagayan	3,007	156,239	31	192,422	64	202,700	67
Samar	5,234	266,237	50	325,232	62	342,600	65
Tayabas	4,195	204,739	48	254,052	61	267,620	64
Mountain	6,447	95,495	36	387,388	60	408,070	63
Abra	1,475	51,860	44	65,170	44	68,650	47
Surigao	2,889	115,112	16	117,640	41	123,920	43
Isabela	4,052	76,431	15	98,748	24	104,020	26
Mindanao and Sulu:							
Sulu	1,082	120,768	78	110,548	102	116,450	108
Lanao	2,439			79,597	33	83,550	34
Zamboanga	6,383	67,899	15	124,869	20	131,540	21
Bukidnon	3,871			58,150	15	61,260	16
Davao	7,486	65,496	7	109,921	15	115,790	16
Agusan	4,294			59,690	14	62,880	15
Cotabato	9,620	125,875	11	97,661	10	102,870	11
Mindoro	3,983	39,582	10	63,777	16	67,180	17
Palawan	5,619	35,696	6	65,131	12	68,610	13
Nueva Vizcaya	3,530	62,531	32	34,665	10	36,520	11
Philippine Islands	114,420	7,635,426	67	9,503,271	83	10,010,810	87

<sup>a</sup> Furnished by the Bureau of Lands.

<sup>b</sup> Census of 1903.

<sup>c</sup> From Professor Beyer's "Population of the Philippine Islands in 1916."

<sup>d</sup> Estimated on the basis of Prof. Beyer's estimated population in 1918.

NOTE.—The comparison of population is not <sup>accurate</sup> reliable as there have been many territorial changes since 1903.

The population in 1903 according to the official census is classified as follows:

Brown .....	7,539,623
Mixed .....	15,419
Yellow .....	42,097
White .....	14,271
Black .....	24,016
Total .....	7,635,426

The population in 1915, is classified by Professor Beyer as follows:

Christian .....	8,413,347
Mohammedan .....	315,980
Pagan .....	618,637
Unclassified pagan.....	81,941
Foreign born.....	73,366
Total .....	9,503,271

The population of the city of Manila is classified as follows:

Americans (outside of the Army & Navy).....	5,000
Filipinos .....	245,500
Spaniards .....	4,400
Other Europeans.....	1,500
Chinese .....	16,600
Japanese .....	2,340
Filipino transients.....	4,200
All others.....	920
Total .....	280,460

TABLE NO. 2.—*Immigration and emigration of aliens.*

[Source: Bureau of Customs.]

Year.	Immi- grant.	Non immi- grant.	Total admit- ted.	Emi- grant.	Non emi- grant.	Total depart- ed.	In- crease or de- crease.
1908.....	1,706	6,199	7,905	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
1909.....	2,059	5,411	7,470	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
1910.....	2,308	7,223	9,531	1,010	8,785	9,795	(264)
1911.....	2,946	7,248	10,194	896	8,696	9,592	602
1912.....	2,536	6,932	9,468	729	8,776	9,505	(37)
1913.....	4,408	8,238	12,646	768	9,138	9,906	2,740
1914.....	4,032	7,200	11,232	1,364	9,181	10,545	687
1915.....	4,067	7,857	11,924	916	9,574	10,490	1,434
1916.....	4,641	6,964	11,605	974	9,097	10,071	1,534
1917.....	6,939	6,226	13,165	762	7,523	8,285	4,880
1918 <sup>b</sup> .....	4,187	2,934	7,121	428	4,711	5,139	1,982

<sup>a</sup> Not available.

<sup>b</sup> From January 1 to June 30 only.

NOTE.—Figures in parentheses are decreases.

TABLE No. 3.—*Values of the most important imports of the Philippine Islands from 1908 to 1918.*

[Source: Bureau of Customs.]

Article.	1908	1909	1910	1911	1912	1913
Cotton, and manufactures of.....	P14,443,364	P14,389,360	P20,970,102	P18,463,840	P22,238,324	P23,688,602
Iron and steel, and manufactures of.....	4,018,612	4,732,152	11,118,916	12,357,378	12,436,668	17,227,808
Rice.....	11,108,142	9,588,018	11,982,670	13,544,494	26,017,012	6,329,182
Silk, and manufactures of.....	1,023,560	1,073,990	1,468,780	1,527,212	1,827,328	1,672,644
Wheat flour.....	1,886,044	2,564,898	3,108,478	3,013,716	4,266,654	3,797,908
Paper, and manufactures of.....	951,122	1,052,904	1,594,030	1,499,054	1,772,112	1,638,874
Leather, and manufactures of.....	1,115,838	1,184,850	2,241,840	1,836,926	2,548,830	2,116,896
Dairy products.....	1,142,306	1,349,170	1,940,688	2,025,748	2,509,264	2,442,530
Automobiles, and parts of.....			633,104	1,456,204	1,842,384	2,526,804
Coal.....	1,195,014	1,252,698	3,358,578	2,438,050	2,133,328	3,168,134
Fibers, vegetables and textile.....	861,904	745,068	999,830	890,968	1,135,530	1,003,128
Oils (not illuminating).....	457,474	490,960	888,656	1,194,524	1,503,772	1,689,230
Chemicals, drugs, dyes, and medicines.....	826,756	1,027,352	1,256,530	1,267,896	1,668,226	1,438,160
Meat products.....	2,768,404	2,920,014	3,770,612	3,668,726	5,062,148	4,106,500
Illuminating oil.....	1,438,606	2,006,250	1,847,512	2,280,974	2,786,646	2,536,188
Instruments and apparatus.....	136,920	277,962	733,062	1,185,440	1,645,270	1,989,678
Fish and fish products.....	638,072	907,286	1,346,232	1,196,956	1,344,552	1,691,560
Vegetables.....	1,079,580	1,237,466	1,377,162	1,473,956	1,606,818	1,559,910
Tobacco, and manufactures of.....	81,402	161,818	448,518	354,546	490,482	617,792
Soap.....	129,380	173,568	338,202	427,106	658,780	762,952
Wood, and manufactures of.....	750,104	718,638	2,029,578	1,224,068	1,661,038	1,541,254
Books and printed matter.....	342,264	376,618	921,418	786,932	1,229,022	1,060,954
Glass and glassware.....	371,748	384,420	592,908	608,366	715,958	636,542
Cocoa or cacao.....	459,294	402,356	445,118	492,374	733,608	504,242
All other imports.....	11,090,330	13,091,022	24,025,178	20,833,360	23,502,448	20,908,230
Total.....	58,372,240	62,168,838	99,438,722	96,048,814	123,335,802	106,625,57

TABLE No. 3.—Value of the most important imports of the Philippine Islands from 1908 to 1918—Continued.

Article.	1914	1915	1916	1917	1918 <sup>a</sup>	Per cent to total imports.	
						1913	1917
Cotton, and manufactures of	P19,912,488	P23,882,838	P18,649,772	P37,574,005	P28,083,116	22.22	28.55
Iron and steel, and manufactures of	13,966,888	8,860,142	7,726,477	11,855,125	10,879,040	16.17	9.01
Rice	6,582,296	13,448,551	13,043,642	10,781,463	6,294,162	5.93	8.19
Silk, and manufactures of	1,098,876	1,805,574	1,769,963	3,961,187	2,803,367	1.58	3.01
Wheat flour	3,222,316	3,892,607	3,002,883	3,831,050	3,364,069	3.56	2.92
Paper, and manufactures of	1,514,380	1,522,421	1,789,886	3,778,373	1,892,013	1.53	2.88
Leather, and manufactures of	3,115,648	2,549,605	2,119,387	3,247,817	1,771,821	1.97	2.47
Dairy products	2,236,546	2,193,682	1,985,908	3,129,238	1,204,922	2.27	2.38
Automobiles, and parts of	2,026,902	1,949,633	2,705,145	3,080,801	2,989,123	2.37	2.34
Coal	3,499,490	2,865,041	2,607,988	3,076,470	2,005,335	2.97	2.34
Fibers, vegetables and textile	1,494,356	1,197,861	1,242,175	3,071,808	1,987,910	.94	2.33
Oils (not illuminating)	1,587,668	1,801,020	2,631,525	2,914,882	1,169,944	1.58	2.22
Chemicals, drugs, dyes, and medicines	1,447,582	1,730,653	2,776,148	2,862,248	1,570,292	1.35	2.17
Meat products	3,732,548	3,442,474	2,271,487	2,850,873	1,744,105	3.86	2.03
Illuminating oil	2,562,040	2,258,030	2,025,691	2,673,335	895,727	2.38	2.03
Instruments and apparatus	1,657,422	1,500,493	1,361,024	1,893,907	744,415	1.86	1.44
Fish and fish products	1,441,470	832,288	1,120,021	1,855,736	1,971,094	1.59	1.41
Vegetables	1,590,678	1,428,883	1,477,624	1,823,970	1,139,462	1.46	1.38
Tobacco, and manufactures of	614,586	784,553	849,002	1,178,446	567,495	.59	.89
Soap	1,170,724	962,197	630,319	1,163,630	386,926	.71	.88
Wood, and manufactures of	1,543,578	672,425	616,996	1,098,429	933,103	1.44	.83
Books and printed matter	939,092	818,892	939,525	971,559	520,785	.99	.74
Glass and glassware	586,638	541,555	651,208	950,781	721,673	.60	.72
Cocoa or cacao	663,806	469,480	811,026	905,855	13,717,696	.47	.69
All other imports	18,399,288	17,507,144	16,388,963	21,063,874		19.61	16.01
Total	97,177,306	98,624,367	90,992,675	131,594,061	89,956,940	100.00	100.00

<sup>a</sup> January 1 to June 30 only.<sup>b</sup> Not separately stated prior to July 1, 1910. Government and railway free entries excluded prior to the year 1910.



TABLE No. 4.—*Monthly importation of rice from 1913 to 1918.*

[Source: Bureau of Customs.]

Month.	1913				1914				1915			
	Quantity.	Value.	Duty.	Kilos.	Quantity.	Value.	Duty.	Kilos.	Quantity.	Value.	Duty.	
January.....	6,298,815	\$564,070	\$125,374	3,482,416	22,482,889	\$247,118	\$69,650	22,482,889	13,391,994	\$1,391,994	\$449,658	
February.....	13,459,737	948,504	269,198	8,130,549	238,374	62,616	62,616	13,074,748	822,748	822,748	261,496	
March.....	5,579,165	441,470	111,586	8,252,210	554,116	165,046	165,046	17,332,857	1,032,462	1,032,462	346,654	
April.....	3,720,347	317,478	74,406	6,538,679	440,928	130,772	130,772	16,444,705	1,993,234	1,993,234	325,308	
May.....	3,347,710	265,064	66,818	1,498,736	132,662	28,684	28,684	18,604,258	1,081,100	1,081,100	372,086	
June.....	3,051,887	444,104	101,036	9,322,643	640,078	186,446	186,446	22,906,281	1,276,044	1,276,044	458,126	
July.....	8,078,644	698,170	161,578	9,408,023	580,566	188,164	188,164	23,726,919	1,421,718	1,421,718	474,538	
August.....	5,650,977	338,878	113,024	15,431,161	954,584	308,628	308,628	26,691,642	1,557,814	1,557,814	533,757	
September.....	18,927,332	1,180,606	378,550	10,493,217	678,426	209,862	209,862	22,002,996	1,351,753	1,351,753	440,056	
October.....	9,538,486	604,062	190,770	12,548,004	859,782	250,958	250,958	16,911,849	1,221,795	1,221,795	335,494	
November.....	6,061,251	442,276	121,226	5,774,716	433,880	115,492	115,492	5,906,658	118,130	118,130	118,130	
December.....	1,305,204	119,600	26,104	11,040,243	791,782	220,804	220,804	12,555,743	876,559	876,559	247,114	
Total.....	86,939,555	6,329,182	1,739,670	96,921,497	6,552,296	1,937,122	1,937,122	218,411,545	13,448,551	13,448,551	4,362,417	

Month.	1916				1917				1918*			
	Quantity.	Value.	Duty.	Kilos.	Quantity.	Value.	Duty.	Kilos.	Quantity.	Value.	Duty.	
January.....	7,515,484	\$430,473	\$150,307	7,466,108	275,668	\$149,223	\$149,223	7,749,405	738,948	738,948	\$158,798	
February.....	10,696,770	682,822	213,936	10,444,723	767,117	208,954	208,954	6,301,702	518,381	518,381	127,625	
March.....	12,815,697	835,753	256,313	9,596,225	715,576	191,924	191,924	12,755,392	976,179	976,179	257,992	
April.....	14,329,895	879,908	286,588	7,128,299	495,716	142,539	142,539	18,070,654	1,441,053	1,441,053	365,816	
May.....	10,894,212	693,909	217,882	13,406,165	956,018	268,301	268,301	14,437,244	1,080,465	1,080,465	292,953	
June.....	19,168,883	1,270,555	383,276	17,455,837	1,232,100	352,834	352,834	18,327,756	1,339,136	1,339,136	371,421	
July.....	22,067,476	1,538,965	441,348	22,828,056	1,672,287	464,878	464,878	26,862,871	2,233,131	2,233,131	537,103	
August.....	21,125,478	1,422,198	422,508	14,239,336	1,057,672	292,611	292,611	9,642,566	882,518	882,518	194,967	
September.....	18,598,427	1,316,543	371,967	10,039,318	1,060,149	285,230	285,230	12,697,644	1,176,341	1,176,341	257,045	
October.....	22,924,131	1,743,133	458,483	14,621,494	1,011,385	299,785	299,785	18,917,914	1,611,385	1,611,385	400,000	
November.....	16,174,698	1,135,621	323,489	9,268,817	672,268	187,914	187,914	11,911,385	1,011,385	1,011,385	257,045	
December.....	13,524,926	923,762	270,499	6,490,737	566,107	132,104	132,104	12,645,234	10,586,152	10,586,152	2,563,720	
Total.....	189,835,577	13,043,642	3,796,696	146,985,715	10,781,463	2,976,557	2,976,557	126,645,234	10,586,152	10,586,152	2,563,720	

\* To September 30 only.

TABLE NO. 5.—*Rice imports from 1899 to 1918.*

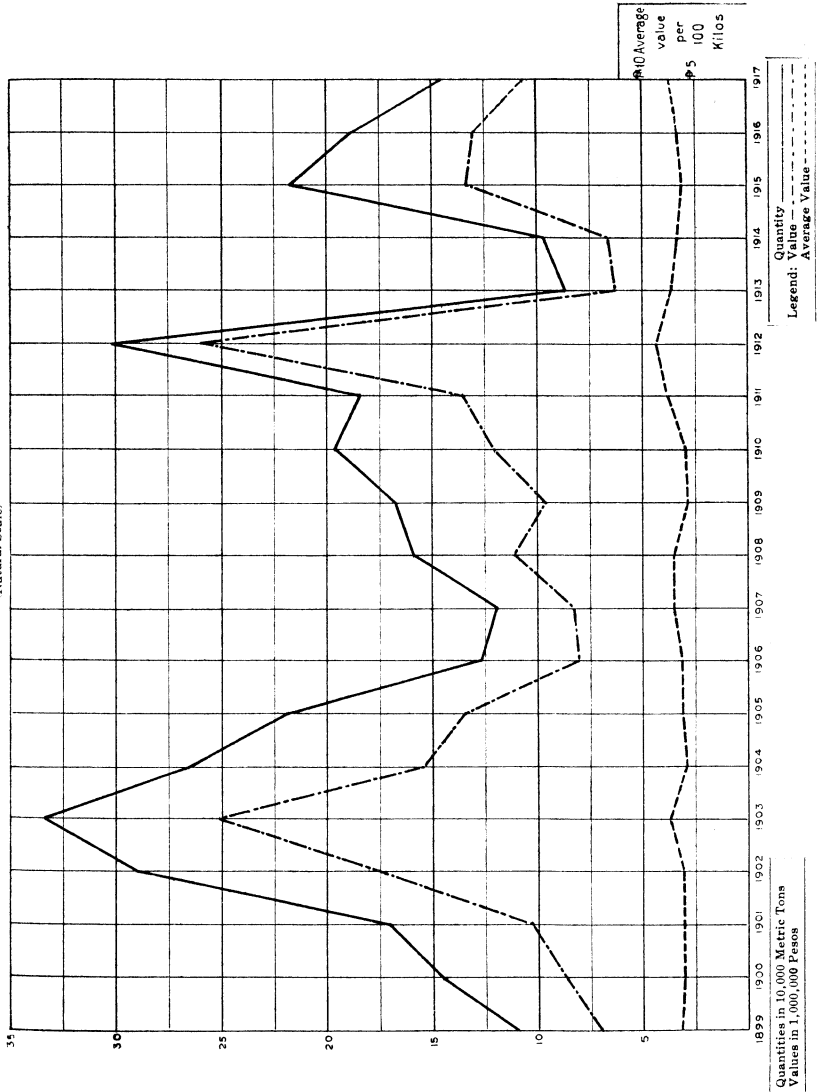
[Source: Bureau of Customs.]

Year.	Rice imports.		Value.	Average value per 100 kilos.	Average value per cavan.
	Metric tons.	Equivalent in cavans.			
1899	110,142	1,915,500	P7,047,382	P6.40	P3.68
1900	145,838	2,536,300	8,730,112	5.99	3.44
1901	170,648	2,967,800	10,216,682	5.99	3.44
1902	290,057	5,044,500	17,568,776	6.06	3.48
1903	334,339	5,814,600	25,104,764	7.51	4.32
1904	265,754	4,621,800	15,421,508	5.80	3.33
1905	219,274	3,813,500	13,491,950	6.15	3.54
1906	127,053	2,209,600	7,983,826	6.28	3.61
1907	119,024	2,070,000	8,333,488	7.00	4.03
1908	158,385	2,754,500	11,105,142	7.01	4.04
1909	167,125	2,906,500	9,588,018	5.74	3.30
1910	197,326	3,431,800	11,982,670	6.07	3.41
1911	183,675	3,194,300	13,544,494	7.37	4.24
1912	301,057	5,235,800	26,017,012	8.64	4.97
1913	86,990	1,512,900	6,329,182	7.28	4.18
1914	99,921	1,737,800	6,552,296	6.76	3.77
1915	218,442	3,799,000	13,448,551	6.16	3.54
1916	189,836	3,301,500	13,043,642	6.87	3.95
1917	146,986	2,556,300	10,781,463	7.33	4.22
1918 <sup>a</sup>	77,642	1,350,300	6,294,162	8.11	4.66

<sup>a</sup> From January 1 to June 30 only.

NOTE.—The value as shown above does not include cost of transportation to the Philippine Islands, rates of exchange, customs duties, cartage, storage, and other handling charges.  
57.5 kilos is equivalent to 1 cavan.

# **RICE IMPORTS** (Natural Scale)



Report to  
BUREAU OF INTERNATIONAL RELATIONS  
University of California

TABLE No. 6.—*Thirteen greatest importing countries into the Philippines—Value of the three most important articles imported from each country in 1913 and 1917.*

[Source: Bureau of Customs.]

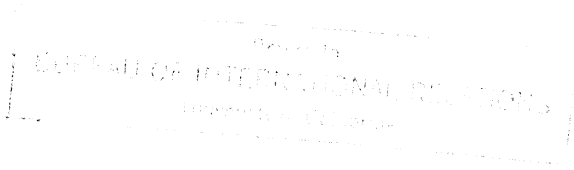
Country.	1913				1917			
	Rank.	Articles.	Value.	Percent- age on total im- ports from each country.	Rank.	Articles.	Value.	Percent- age on total im- ports from each country.
United States .....	1	Cotton, iron and steel, and oils .....	P29,636,302	55.55	1	Cotton, iron and steel, and oils .....	P40,499,904	53.83
United Kingdom .....	2	Cotton, iron and steel, and vegetables ..	6,424,038	59.75	5	Cotton, iron and steel, and silk .....	4,206,606	71.03
Japan .....	3	Cotton, iron and steel, and vegetables ..	2,966,566	43.71	2	Cotton, coal and coke, and breadstuff ..	9,420,878	57.33
Germany .....	4	Iron and steel, cement, and cotton .....	2,948,484	51.04	15	Iron and steel, chemicals, etc., and cotton.	194,518	60.44
French East Indies .....	5	Rice, chemicals, etc., and fish .....	5,237,414	96.72	3	Rice, animals, and coal and coke .....	10,385,776	99.09
Australasia .....	6	Meat and dairy products, vegetables, and breadstuff.	4,194,432	78.31	6	Meat and dairy products, fodder, and breadstuff.	3,237,216	91.38
China .....	7	Vegtables, meat and dairy products, and silk.	1,090,734	24.96	4	Meat and dairy products, breadstuff, and cotton.	2,643,988	31.08
France .....	8	Diamond, papers, and perfumery .....	957,230	33.05	9	Diamond, papers, and perfumery .....	1,065,123	67.59
Spain .....	9	Cotton, fish, and wines .....	1,228,852	49.59	10	Fish, books and periodicals, and wines ..	472,091	33.55
Switzerland .....	10	Cotton, meat and dairy products, and silk.	1,227,220	87.44	11	Cotton, meat and dairy products, and clocks and watches.	688,949	91.38
British East Indies .....	11	Cotton, animals, and breadstuff .....	206,542	15.52	7	Cacao, cotton, and vegetables .....	849,743	33.50
Hawaii .....	12	Iron and steel, coffee, and sugar .....	1,167,964	98.17	13	Iron and steel, coffee, and fertilizer .....	610,386	99.21
Hongkong .....	13	Iron and steel, cement, and sugar .....	868,808	82.03	14	Vessels, cement, and articles of Philip- pine growth, produce and manu- facture.	312,946	81.17

NOTE.—The 8th and 12th places were occupied by Dutch East Indies and Siam, respectively, in 1917.

TABLE NO. 7.—*Hemp exports—Quantity and value exported, 1899–1918.*

[Source: Bureau of Customs.]

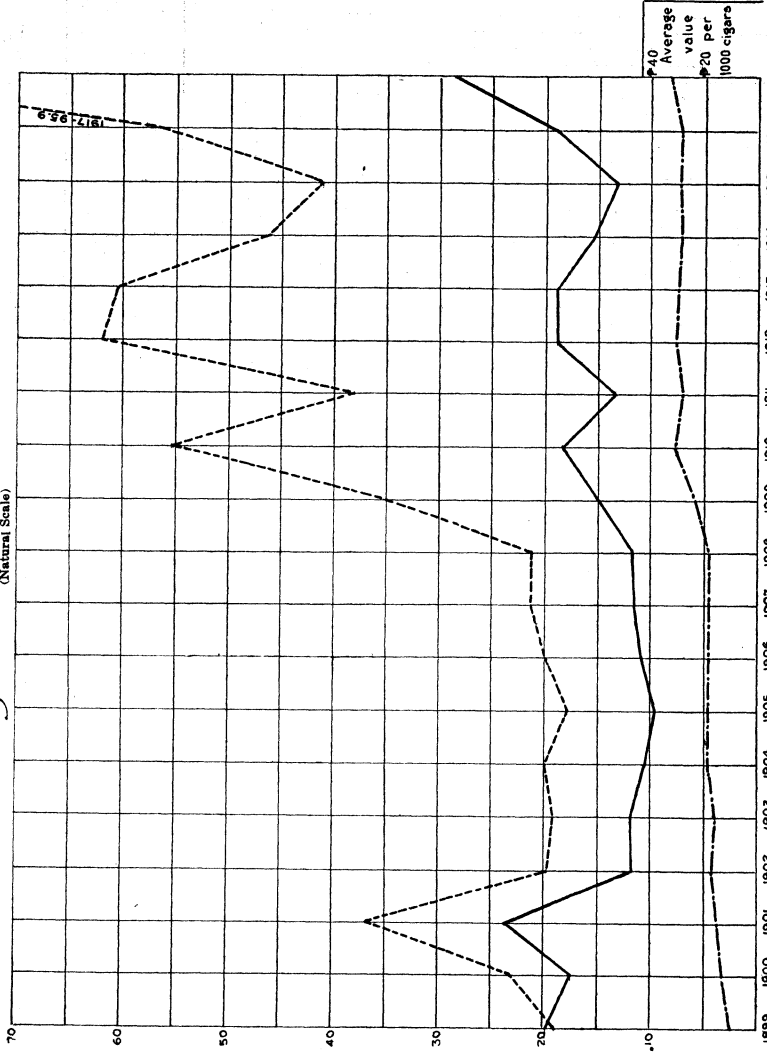
Year.	Quantity.	Value.	Average value per 100 kilos.
	<i>Kilos.</i>		
1899 .....	70,152,768	₱15,987,148	₱22.79
1900 .....	90,869,008	26,580,800	29.36
1901 .....	126,245,112	31,953,280	25.31
1902 .....	113,284,000	38,581,220	34.06
1903 .....	139,956,032	44,001,176	31.44
1904 .....	123,583,192	41,888,354	33.90
1905 .....	130,437,128	43,514,688	33.36
1906 .....	104,078,024	39,225,264	37.69
1907 .....	117,241,320	39,378,986	33.59
1908 .....	131,382,008	33,003,912	25.12
1909 .....	167,953,119	33,792,000	20.12
1910 .....	163,173,211	32,950,622	20.19
1911 .....	148,202,047	28,970,254	19.55
1912 .....	175,137,180	44,151,342	25.21
1913 .....	119,821,435	42,242,168	35.25
1914 .....	116,386,575	39,389,630	32.99
1915 .....	142,010,431	42,678,200	30.05
1916 .....	137,326,092	53,384,593	38.87
1917 .....	169,435,204	93,615,559	55.25
1918 <sup>a</sup> .....	71,333,675	53,018,524	74.32

<sup>a</sup> From January 1 to June 30 only.

28  
16

for 16 see opp. p. 29

*Cigar* ~~NEW~~ EXPORTS  
(Natural Scale)



Quantities in 10,000,000 pesos  
Values in 1,000,000 pesos

*Cigars*

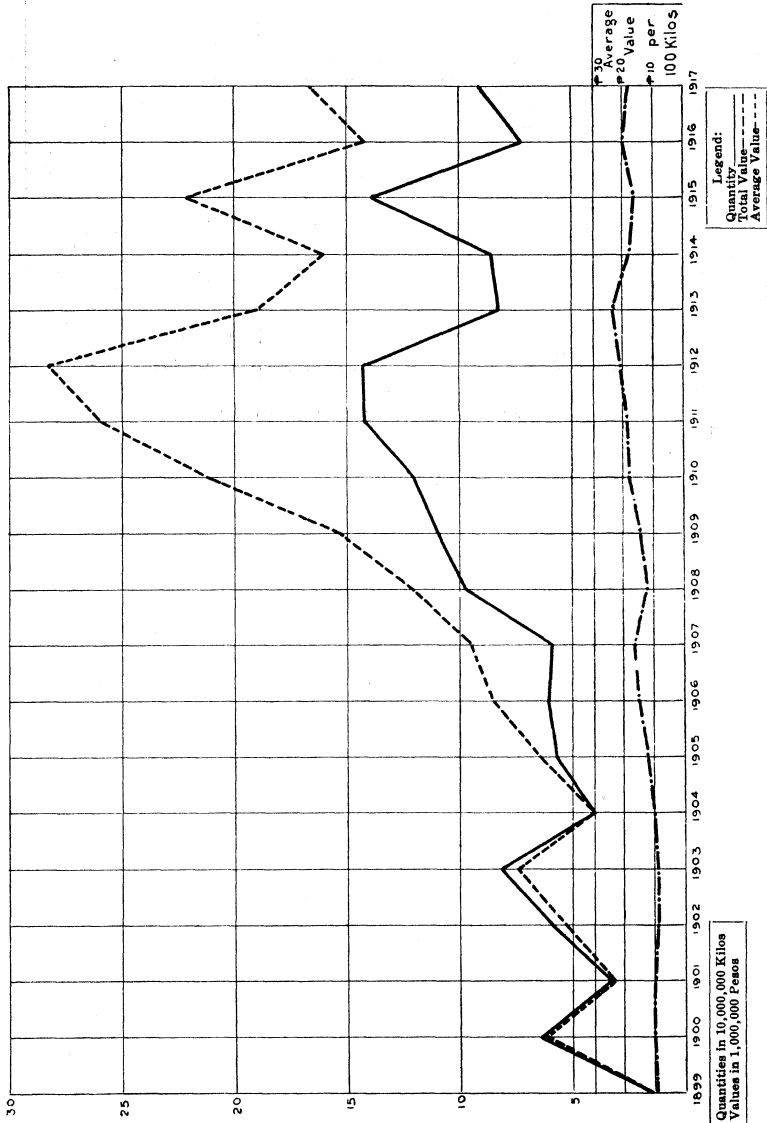
TABLE No. 8.—*Copra exports—Quantity and value exported, 1899–1917.*

[Source: Bureau of Customs.]

Year.	Quantity.	Value.	Average value per 100 kilos.
	<i>Kilos.</i>		
1899	15,353,175	₱1,453,306	₱9.47
1900	64,890,953	6,364,962	9.81
1901	32,517,773	3,223,676	9.91
1902	59,226,854	5,403,450	9.12
1903	82,154,170	7,639,586	9.30
1904	38,572,325	3,962,244	10.27
1905	55,748,625	6,489,406	11.64
1906	60,585,955	8,747,404	14.44
1907	58,622,437	9,568,302	16.32
1908	97,494,971	12,117,772	12.43
1909	109,033,203	15,345,730	14.07
1910	120,483,808	21,278,098	17.67
1911	142,147,546	26,039,124	18.32
1912	142,792,929	28,366,932	19.87
1913	82,219,363	19,091,448	23.22
1914	87,344,695	15,960,540	18.27
1915	139,092,902	22,223,109	15.98
1916	72,277,164	14,231,941	19.69
1917	92,180,326	16,654,301	18.07
1918 <sup>a</sup>	42,539,577	8,079,246	18.09

<sup>a</sup> From January 1 to June 30 only.

Graph III  
COPRA EXPORTS  
(Natural Scale)





# COPRA AND COPRA PRODUCTS IN THE PHILIPPINE ISLANDS.

By H. W. FOSTER, *Commercial Agent, Bureau of Commerce and Industry.*

Copra is the dried meat of the coconut and is prepared for the purpose of producing coconut oil. Copra is prepared on a commercial scale in 32 provinces out of 44 in the Philippine Islands. The Bureau of Agriculture reports 205,591 short tons produced during the year ending June 30, 1917.

The following figures show the exportation of copra and coconut oil from the Philippine Islands as recorded by the Bureau of Customs:

Year.	Copra.		Coconut oil.	
	Kilos.	Value.	Kilos.	Value.
1912.....	142,792,929	₱28,366,932		₱80
1913.....	82,219,363	19,091,448	5,010,429	2,292,678
1914.....	87,344,695	15,960,540	11,943,329	5,238,366
1915.....	139,092,902	22,223,109	13,464,169	5,641,003
1916.....	72,277,164	14,231,941	16,091,169	7,851,469
1917.....	92,180,326	16,654,301	45,198,415	22,818,294
1918 *.....	52,485,727	9,893,969	79,924,479	43,005,869

\* January to September, inclusive, only.

To prepare copra, the coconut is split, the meat partially dried while in the shell; the meat is then removed and the drying completed. Drying is done either by the sun or artificially. There are three classes of copra. Sundried, as its name indicates, is copra which has been thoroughly dried in the sun. Fair merchantable Manila is copra which was partially or imperfectly dried when received in Manila and which has been redried. Low grade copra is that which is smoked and scorched and is rancid. There are the following variations in quality within the classes mentioned depending upon the perfectness of the drying:

## a. Sundried:

1. Thoroughly dried in the sun..... ₱12.75 to ₱13.00
2. Thoroughly dried over a drier..... 12.25 to 12.50

## b. Fair merchantable Manila:

3. Redried in the sun..... 12.00 to 12.25
4. Redried artificially..... 11.50 to 11.75

## c. Low grades:

5. Partially dried in the sun..... 11.25 to 11.50
6. Imperfectly dried over a drier..... 10.75 to 11.00

## PRICE OF ARTIFICIALLY DRIED COPRA.

[Per picul.]

1918.	Imperfectly dried.	Redried in Manila.	Thoroughly dried.
January .....	P9.25 to P9.50	P10.00 to P10.25	P10.75 to P11.00
February .....	10.25 to 10.50	11.00 to 11.25	11.75 to 12.00
March .....	10.75 to 11.00	11.50 to 11.75	12.25 to 12.50
April .....	11.50 to 11.75	12.25 to 12.50	13.00 to 13.25
May .....	11.75 to 12.00	12.50 to 12.75	13.25 to 13.50
June .....	10.50 to 70.75	11.25 to 11.50	12.00 to 12.25
July .....	10.00 to 10.25	10.75 to 11.00	11.50 to 11.75
August .....	11.00 to 11.25	11.75 to 12.00	12.50 to 12.75
September .....	12.75 to 13.00	13.50 to 13.75	14.25 to 14.50
October (1-20) .....	14.25 to 14.50	15.00 to 15.25	15.75 to 16.00

## PRICE OF SUNDRIED COPRA.

[Per picul.]

January .....	P9.75 to P10.00	P10.50 to P10.75	P11.25 to P11.50
February .....	10.75 to 11.00	11.50 to 11.75	12.25 to 12.50
March .....	11.25 to 11.50	12.00 to 12.25	12.75 to 13.00
April .....	12.00 to 12.25	12.75 to 13.00	13.50 to 13.75
May .....	12.25 to 12.50	13.00 to 13.25	13.75 to 14.00
June .....	11.00 to 11.25	11.75 to 12.00	12.50 to 12.75
July .....	10.50 to 10.75	11.25 to 11.50	12.00 to 12.25
August .....	11.50 to 11.75	12.25 to 12.50	13.00 to 13.25
September .....	13.25 to 13.50	14.00 to 14.25	14.75 to 15.00
October (1-20) .....	14.75 to 15.00	15.50 to 15.75	16.25 to 16.50

Many oil men have complained regarding the high price of copra. It has even been stated by some that with copra at ₱15 their mills would operate at a loss. On the other hand, others have claimed that they could operate at a profit paying ₱16 per picul for copra. There has been a movement on the part of certain mills to combine to limit the price to be paid for copra. The claim is made that the producer is not benefiting from the high prices, but that the prices are being forced by speculators who have already purchased large stocks at low prices. On November 5, 1918, however, there were but 87,390 piculs or 5,462 short tons of copra in Manila, exclusive of that in the hands of oil mills. If one mill operates at a loss paying ₱15 per picul for copra while another realizes a reasonable profit paying ₱16, it would appear that there is a wide difference in degree of efficiency attained by the respective managements of the two mills.

Coconut oil is produced commercially by passing copra which has been ground to a meal through expellers or through hydraulic presses or both.

Coconut oil was first exported on a commercial scale in 1913. Prior to the opening of the war, there was but one company in the Philippine Islands producing coconut oil on a commercial scale. During the war difficulty in marketing copra was encountered, both because of lack of European demand and because of lack of space on deep sea vessels. As a result the coconut

oil industry enjoyed and is enjoying a period of unwonted prosperity. There were on November 18, 1918, thirty-seven companies incorporated under the laws of the Philippine Islands or of the United States having for their purpose the manufacture of coconut oil. There are in addition five individuals or partnerships engaged in the same industry. The thirty-seven corporations were organized in the following years:

1909.....	1
1911.....	1
1913.....	1 (Reorganization of first company.)
1914.....	1
1915.....	3
1917.....	8
1918.....	25 (reorganization of two old companies.)
	<hr/> 40
	-3 (Deduct for reorganization.)
	<hr/> 37

The individuals or partnerships began to produce oil during the following years:

1916 .....	1
1917 .....	1
1918 .....	3
	<hr/> 5

Not all of these forty-two concerns are producing oil. On October 31, 1918, thirty-one of them, however, were registered with the office of the Governor-General as having produced oil or as expecting to produce in the near future. These thirty-one concerns commenced to produce oil as follows:

Year.	Number of companies commencing to produce.	Total producing.
1913 .....	1	1
1916 .....	3	4
1917 .....	6	10
1918 prior to November 1.....	11	21
1918 in November 1.....	1	22
(Not yet producing).....	9	.....
	<hr/> 31	<hr/> .....

Of the twenty-one which had actually produced oil prior to October 31, 1918, three were closed for repairs on said date. There were, therefore, eighteen mills in operation on October 31, 1918.



The following figures may be of interest:

Date. (1918.)	Number of oper- ating mills.	Oil on hand first of month.	Pro- duction.	Total on hand dur- ing the month.	Shipped.	On hand last day of month.
January 1 to August 31 .....	16		81,551			
September .....	17	12,401	14,989	27,390	17,791	9,599
October .....	18	9,599	15,808	25,407	10,446	14,961
Total .....			112,348		28,237	

Average daily production October, 1918, per operating day—523 tons. Quantity of oil is stated in short tons of 2,000 pounds each.

It is estimated that these thirty-one companies referred to are equipped to produce a maximum of 1,300 tons of 2,000 pounds each of coconut oil per day of 24 hours. The eighteen of the companies actually producing oil, are equipped to produce a maximum of 964 tons of coconut oil per 24-hour day. These mills produced 15,808 tons of oil during October, 1918. The oil was produced by mills at the rate of 523 tons per operating day of 24 hours.

To supply the thirty-one mills with enough copra to run at the estimated full capacity, 847,300 tons of copra per year are needed. To supply the eighteen now operating with enough copra to run at full capacity, 628,250 tons of copra per year are needed. To enable these mills which produced 15,808 tons of oil in October at the rate of 523 tons per operating day to continue to produce oil at that rate per day for a year, 340,880 tons of copra are needed. The calculation is based on an expected average of 56 per cent extraction—a percentage considered favorable under existing conditions.

The annual production of copra as estimated by the Bureau of Agriculture is 248,641 tons. Many oil men estimate the production for 1918 to be 300,000 tons. The following method of estimating the amount of copra available in 1918 may be followed: The total amount of oil produced by all oil mills from January, 1918 to September 30, 1918, was 96,540 tons. To produce this oil, 172,393 tons of copra was required if a 56 per cent extraction was realized. From January 1, 1918 to September 30, 1918, 52,485,727 kilos or 57,734 tons was exported. Assuming that oil can be manufactured and copra exported for the remainder of the year at the same rate that oil was manufactured and copra exported from January 1, 1918 to September 30, 1918, the total amount of copra available for export or manufacture into oil will be 306,836 tons. No one, however, estimates that the copra produced in the Philippine Islands in

1918 will reach the 340,880 tons required to maintain the rate of oil production reached in October, 1918. Steps have already been taken by certain mills to import copra from nearby countries.

The transporting of coconut oil from the Philippine Islands to the United States assumed a new phase when it was discovered that the Standard Oil Company's tankers which had been used for bringing petroleum products to the Orient could be used on the return trip for carrying coconut oil. To handle vegetable oil in bulk, coconut oil companies require loading facilities in Manila and unloading and storage facilities at destination. Due to the high price of materials but very few companies possess these facilities. Lack of these facilities places the small producers largely at the mercy of those companies which can handle the oil quickly at both ends of the voyage. There is an opportunity for business men to establish relations with the smaller producers, some of whom can produce oil at the rate of 1,000 tons a month, for furnishing storage and land transportation facilities at Pacific Coast ports of the United States.

More steamers for handling coconut oil in bulk are needed. During the war it has been impossible to secure the amount of space needed for transporting coconut oil in bulk. The total capacity for bulk oil of all ships calling in the Philippine Islands is approximately 35,500 tons. Allowing for a round trip every three months, these ships will move not more than 12,000 tons per month. Fifteen thousand eight hundred and eight tons of oil were produced in October, 1918. If this rate is maintained, there will be 3,808 tons of oil per month which must either be shipped in barrels or which will accumulate. The capacity of the barrel factory in Manila is 500 barrels per day which is 4,000 barrels per month less than that needed to move the 3,808 tons of oil which cannot be shipped in bulk. The capacity of the barrel factory is to be increased, and it will be able to handle more than 3,808 tons of oil per month, but shipping in barrels has not been as satisfactory from the standpoint of the oil producer as is shipping the oil in bulk.

At the present time the Governor-General as representative of the United States Shipping Board, allots space on all vessels carrying coconut oil from the Philippine Islands. Because of this procedure the small producer is assured of a market for his oil provided he can make arrangements for loading and unloading his oil. However, the allotting of space may be suspended when the war is over and when the return to normal conditions is under way. The two large tankers with a capacity of 24,000 out of the 35,500 tons of bulk oil are chartered by one company.

What effect the removal of Government control over the space on tankers might have upon small producers is problematical.

The development of the commercial use of the by-products incident to the manufacture of coconut oil is not as far advanced in the Philippine Islands as is the manufacture of the coconut oil itself. Still it is under way. One company at least is directing its attention largely to the manufacture of potash from copra cake. Plans are under way to develop this phase of the industry so as to compete with European oil producers.

TABLE No. 9.—*Sugar exports—Quantity and value exported, 1899–1918.*

[Source: Bureau of Customs.]

Year.	Quantity.	Value.	Average value per 100 kilos.
	<i>Kilos.</i>		
1899	85,827,565	P6,919,420	P8.06
1900	65,190,951	4,794,288	7.35
1901	56,472,593	5,112,626	8.99
1902	98,596,473	6,692,300	6.76
1903	85,307,972	6,650,468	7.80
1904	87,053,051	6,185,504	7.11
1905	108,498,717	10,146,466	9.35
1906	129,453,709	9,108,184	7.04
1907	127,917,216	8,391,342	6.56
1908	144,735,001	11,407,282	7.88
1909	129,327,480	11,216,574	8.67
1910	121,471,544	14,448,770	11.89
1911	209,044,397	22,151,346	10.60
1912	197,075,995	19,600,680	9.95
1913	157,333,707	14,065,778	8.94
1914	236,498,001	22,119,186	9.31
1915	211,012,817	22,620,430	10.72
1916	337,490,000	37,165,185	11.02
1917	205,908,492	24,555,357	11.93
1918 <sup>a</sup>	123,236,780	14,351,240	11.64

<sup>a</sup> From January 1 to June 30 only. Quantity and value includes centrifugal sugar amounting to 25,407,580 kilos valued at P5,236,547.



Graph IV  
SUGAR EXPORTS  
(Natural Scale)

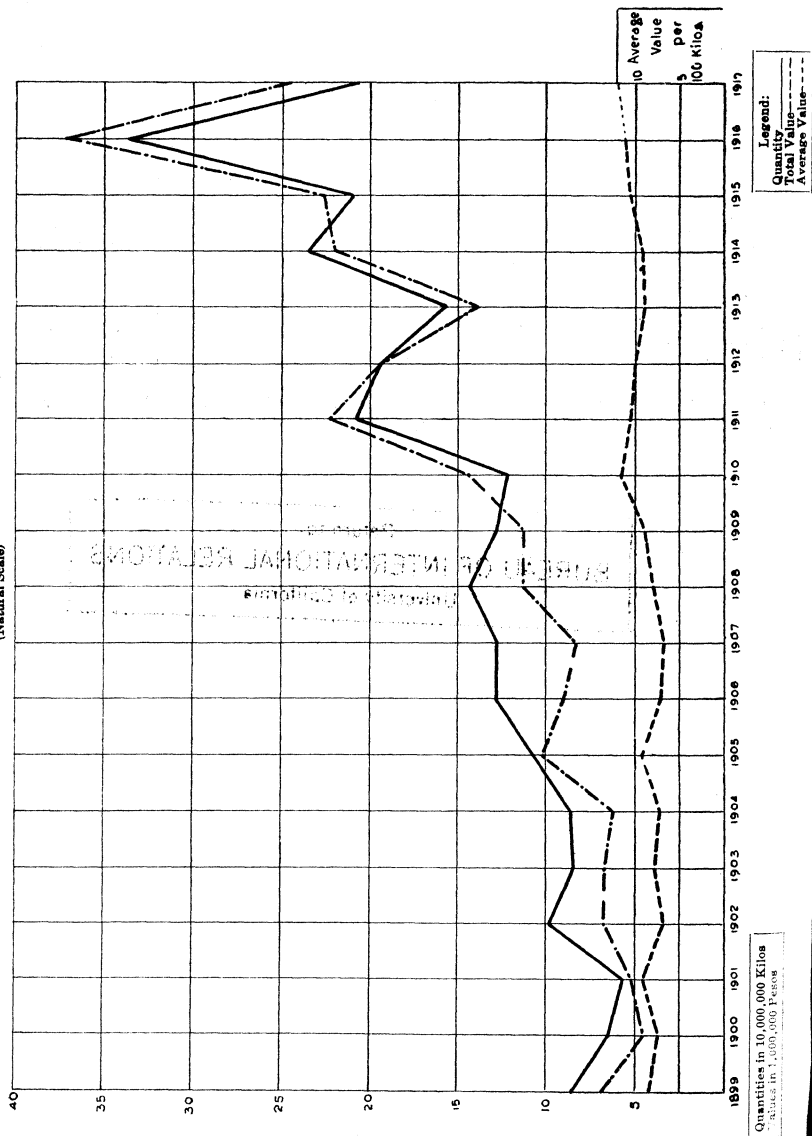




TABLE No. 10.—Cigar exports—Quantity and value exported, 1899–1918.

[Source: Bureau of Customs.]

Year.	Quantity.	Value.	Average value per 1,000.
	<i>Thousands.</i>		
1899	196,090	P1,181,398	P9.65
1900	172,659	2,316,834	13.42
1901	238,475	3,664,898	15.37
1902	117,852	1,977,036	16.78
1903	118,947	1,922,710	16.16
1904	104,753	2,011,790	19.21
1905	95,739	1,785,122	18.65
1906	108,635	2,008,014	18.48
1907	114,665	2,118,764	18.55
1908	115,881	2,118,656	18.28
1909	151,457	3,509,058	23.17
1910	184,407	5,519,322	29.93
1911	184,830	3,803,726	28.21
1912	190,842	6,184,128	32.40
1913	191,762	6,024,468	31.42
1914	154,753	4,630,318	29.92
1915	134,648	4,114,605	30.56
1916	193,026	5,688,751	29.47
1917	284,525	5,615,409	33.66
1918*	147,897	5,615,409	37.56
		7,588,172	

\* From January 1 to June 30 only.

Return to  
BUREAU OF INTERNATIONAL RELATIONS  
University of California

for p 28 See opp. p. 17

*Handy*  
Graph V.  
**CIGARETTE EXPORTS**  
(Natural Scale)

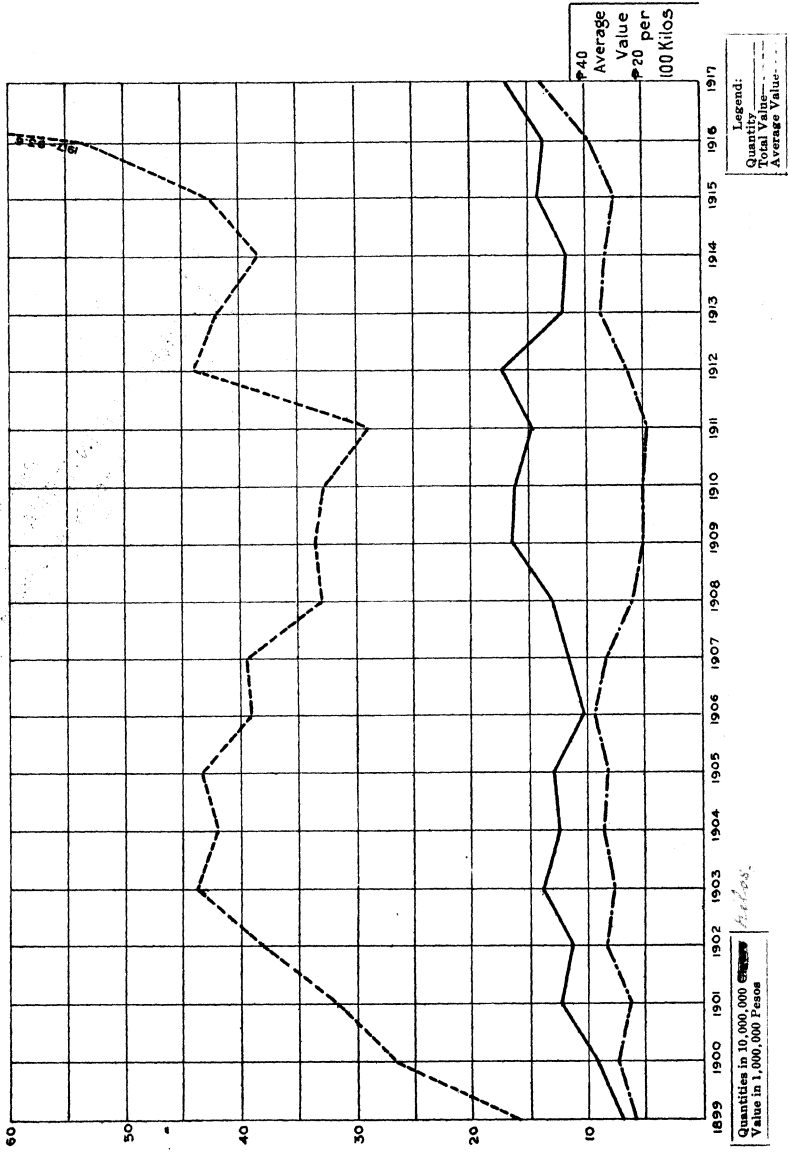




TABLE No. 12.—Value of most important exports of the Philippine Islands from 1908 to 1918.

[Source: Bureau of Customs.]

Article.	1908	1909	1910	1911	1912	1913
Hemp.....	P33,003,912	P33,792,000	P32,950,622	P23,970,254	P44,151,342	P42,242,168
Sugar.....	11,407,282	11,216,574	14,443,770	22,151,346	19,600,690	14,065,778
Coconut oil.....	684,560		32		80	2,232,678
Copra.....	12,117,772	15,345,730	21,278,098	26,039,124	28,366,932	19,091,443
Tobacco.....	5,652,084	6,649,063	8,817,962	7,636,162	10,728,764	9,933,986
Magney.....	326,546	576,994	405,136	537,112	1,098,584	1,131,902
Exports of foreign merchandise.....	306,442	268,803	391,714	493,672	608,608	1,734,468
Knotted hemp.....			705,404	843,976	1,722,370	1,131,402
Hats.....			567,826	380,492	925,114	817,878
Lumber.....	230,983	478,180	337,360	538,446	236,868	623,314
Shells.....	239,656	276,418	428,704		650,172	751,532
Pearl buttons.....						77,346
Coconut cake.....						219,150
Pili nuts.....						188,270
All other domestic merchandise.....	1,172,902	1,244,902	1,235,243	1,472,946	1,760,086	2,144,592
Total.....	65,202,144	69,848,674	81,256,926	89,674,254	109,846,600	95,545,912

TABLE No. 12.—Value of most important exports of the Philippine Islands from 1908 to 1918—Continued.

Article.	1914	1915	1916	1917	1918. <sup>a</sup>	Per cent to total exports.	
						1918	1917
Hemp	P88,389,680	P42,678,200	P53,384,593	P93,615,559	P53,018,524	44.21	48.96
Sugar	22,119,186	22,620,430	37,175,185	24,555,357	14,351,240	13.72	12.84
Coconut oil	6,238,366	5,641,003	7,851,469	22,818,294	22,312,205	2.39	11.93
Copra	15,960,540	22,223,109	14,231,941	16,654,301	8,079,246	18.98	8.71
Tobacco	8,355,064	7,409,868	11,652,349	14,301,081	13,237,318	12.45	7.53
Magney	834,114	1,070,407	3,479,978	4,696,433	1,667,864	1.23	2.45
Exports of foreign merchandise	1,107,640	1,104,252	3,208,678	3,324,851	1,844,253	.82	1.73
Knotted hemp	1,141,574	611,493	1,065,317	1,830,169	689,969	1.18	.98
Hata	627,762	514,138	1,313,226	1,390,833	470,271	.85	.72
Lumber	619,528	470,551	931,238	823,496	329,184	.65	.43
Shells	680,662	602,511	603,151	284,627	201,360	.79	.14
Pearl buttons	122,234	161,481	244,282	224,630	61,183	.08	.11
Coconut cake	233,624	23,576	45,921	36,999	128	.22	.02
Pili nuts	44,624	2,494,989	14,434	1,038	161,644	.19	3.45
All other domestic merchandise	1,904,720	107,626,008	4,722,553	6,600,875	116,324,989	100.00	100.00
Total	97,379,268	107,626,008	139,874,365	191,208,613	116,324,989	100.00	100.00

<sup>a</sup> January 1 to June 30 only.

TABLE No. 12.—Value of most important exports of the Philippine Islands from 1908 to 1918.

[Source: Bureau of Customs.]

Article.	1908	1909	1910	1911	1912	1913
Hemp.....	₱33,003,912	₱33,792,000	₱32,950,622	₱28,970,254	₱44,151,342	₱42,242,168
Sugar.....	11,407,282	11,216,574	14,448,770	23,151,346	19,600,680	14,065,778
Coconut oil.....	12,117,772	15,345,730	21,278,098	26,089,124	28,366,932	2,292,678
Copra.....	5,652,084	6,649,088	8,817,962	7,636,162	10,728,764	19,091,448
Tobacco.....	326,546	576,994	406,186	587,112	1,098,584	9,883,986
Maguay.....	306,442	268,808	391,714	499,672	608,608	1,181,902
Exports of foreign merchandise.....			706,404	843,976	1,722,370	1,784,468
Knotted hemp.....			567,826	880,492	926,114	1,131,402
Hats.....	290,988	478,180	387,860	59,724	236,968	817,878
Lumber.....			428,704	533,446	650,172	623,314
Shells.....	239,656	276,418				751,682
Pearl buttons.....						77,346
Coconut cake.....						219,150
Pili nuts.....	1,172,902	1,244,902	1,235,248	1,472,946	1,760,086	188,270
All other domestic merchandise.....						2,144,592
Total.....	65,202,144	69,848,674	81,256,926	89,674,254	109,846,600	95,545,912

Article.	1914	1915	1916	1917	1918 <sup>a</sup>	Per cent to total exports.	
						1913	1917
Hemp	P38,389,630	P42,678,200	P53,384,593	P93,615,559	P53,018,524	44.21	48.96
Sugar	22,119,186	22,620,430	37,175,185	24,555,357	14,351,240	13.72	12.84
Coconut oil	5,238,366	5,641,003	7,851,469	22,818,294	22,312,205	2.39	11.98
Copra	15,960,540	22,223,109	14,231,941	16,654,301	8,079,246	18.98	8.71
Tobacco	8,355,064	7,409,868	11,682,349	14,301,081	13,237,918	12.46	7.53
Magney	834,114	1,070,407	3,479,978	4,696,493	1,667,864	1.23	2.45
Exports of foreign merchandise	1,107,640	1,104,282	3,208,678	3,324,851	1,844,253	.82	1.73
Knotted hemp	1,141,574	611,493	1,065,317	1,880,159	689,969	1.18	.98
Hats	627,762	514,138	1,313,226	1,390,833	470,271	.85	.72
Lumber	619,528	470,551	981,288	1,823,496	329,184	.65	.43
Shells	680,662	602,511	503,151	284,627	201,360	.79	.14
Pearl buttons	122,234	161,481	244,282	224,630	61,183	.08	.11
Coconut cake	233,624	44,624	45,921	36,999	128	.22	.02
Pili nuts	44,624	23,576	14,434	1,038	128	.19	.02
All other domestic merchandise	1,904,720	2,494,989	4,722,553	6,600,875	161,644	2.24	3.45
Total	97,379,268	107,626,008	139,874,365	191,208,613	116,324,989	100.00	100.00

<sup>a</sup> January 1 to June 30 only.

TABLE NO. 13—*Foreign trade of the Philippine Islands from 1899 to June 30, 1918.*

[Source: Bureau of Customs.]

Year.	Aggregate.			Per capita.		
	Imports.	Exports.	Total trade.	Im-ports.	Ex-ports.	Total.
1899.....	P38,385,972	P29,693,164	P68,079,136	P5.027	P3.889	P8.916
1900.....	49,727,558	45,980,746	95,708,304	6.512	6.022	12.534
1901.....	60,324,942	49,006,706	109,331,648	7.901	6.418	14.319
1902.....	66,684,332	57,343,808	124,028,140	8.733	7.510	16.243
1903.....	67,622,768	64,793,492	132,416,260	8.856	8.486	17.342
1904.....	59,155,462	58,299,000	117,454,462	7.608	7.498	15.106
1905.....	60,101,100	66,909,548	127,010,648	7.589	8.449	16.038
1906.....	52,807,536	65,285,742	118,093,320	6.548	8.095	14.643
1907.....	60,907,620	66,195,934	127,103,554	7.416	8.060	15.476
1908.....	58,372,240	65,202,144	123,574,384	6.979	7.795	14.774
1909.....	62,168,838	69,848,674	132,017,512	7.298	8.200	15.498
1910.....	99,438,722	81,256,926	180,695,648	11.464	9.368	20.832
1911.....	96,048,814	89,674,254	185,723,068	10.872	10.150	21.022
1912.....	123,335,802	109,846,600	233,182,402	13.709	12.209	25.918
1913.....	106,625,572	95,545,912	202,171,484	11.637	10.428	22.065
1914.....	97,177,306	97,379,268	194,556,574	10.414	10.436	20.850
1915.....	98,624,367	107,626,008	206,250,375	10.378	11.325	21.703
1916.....	90,992,675	139,874,365	230,867,040	9.410	14.466	23.876
1917.....	131,594,061	191,208,613	322,802,674	13.375	19.434	32.809
June 30, 1918.....	89,956,940	119,510,245	209,467,185	8.985	11.938	20.923

TABLE NO. 14.—*Total foreign trade and trade balance for each year from 1899 to 1918.*

[Source: Bureau of Customs.]

Year.	Foreign trade.			Increase or decrease. <sup>a</sup>		Trade balance. <sup>a</sup>
	Imports.	Exports.	Total.	Amount.	Per cent.	
1899.....	P38,385,972	P29,693,164	P68,079,136	-----	-----	(P8,692,808)
1900.....	49,727,558	45,980,746	95,708,304	P27,629,168	40.58	(3,746,812)
1901.....	60,324,942	49,006,706	109,331,648	13,623,344	14.23	(11,318,236)
1902.....	66,684,332	57,343,808	124,028,140	14,696,492	13.44	(9,340,524)
1903.....	67,622,768	64,793,492	132,416,260	8,388,120	6.76	(2,829,276)
1904.....	59,155,462	58,299,000	117,454,462	(14,961,798)	(11.30)	(856,462)
1905.....	60,101,100	66,909,548	127,010,648	9,556,186	8.14	6,808,448
1906.....	52,807,536	65,285,742	118,093,320	(8,917,328)	(7.02)	12,478,248
1907.....	60,907,620	66,195,934	127,103,554	9,010,084	7.63	5,288,114
1908.....	58,372,240	65,202,144	123,574,384	(3,528,970)	(2.78)	6,829,904
1909.....	62,168,838	69,848,674	132,017,512	8,443,128	6.83	7,679,836
1910.....	99,438,722	81,256,926	180,695,648	48,678,136	36.87	(18,181,796)
1911.....	96,048,814	89,674,254	185,723,068	5,027,420	(2.78)	(6,374,560)
1912.....	123,335,802	109,846,600	233,182,402	47,459,334	25.56	(13,489,202)
1913.....	106,625,572	95,545,912	202,171,484	(31,010,918)	(13.30)	(11,079,660)
1914.....	97,177,306	97,379,268	194,556,574	(7,614,910)	(3.77)	201,962
1915.....	98,624,367	107,626,008	206,250,375	11,693,801	6.01	9,001,641
1916.....	90,992,675	139,874,365	230,867,040	24,616,665	11.93	48,881,690
1917.....	131,594,061	191,208,613	322,802,674	91,935,634	39.82	59,614,552
1918 <sup>b</sup> .....	89,956,940	119,510,245	209,467,185	c77,953,126	59.27	29,553,305

<sup>a</sup> Figures in parentheses are decreases; in trade balance, they mean against Islands.<sup>b</sup> From January 1 to June 30 only.<sup>c</sup> Compared with same period for 1917.

The balance of trade for the first three quarters of 1918 amounted to P61,154,703. This is 52.5 per cent greater than the trade balance for the same period of 1917 and 37.4 per cent more than that of 1916.



TABLE No. 15.—Comparison of monthly foreign trade of the Philippine Islands during the last three years.

[Source: Monthly statements of the Bureau of Customs.]

Month.	Imports.			Increase of 1917 over 1916.		Increase of 1918 over 1917.		Increase of 1918 over 1916.	
	1916	1917	1918	Amount.	Percent.	Amount.	Percent.	Amount.	Per cent.
January	P7,926,391	P9,239,263	P16,484,943	P1,312,872	16.56	P7,245,680	78.42	P8,558,552	107.98
February	4,804,897	7,449,533	11,546,512	2,644,636	55.04	4,096,979	54.99	6,741,615	140.31
March	7,208,511	9,952,141	14,857,742	2,745,630	38.09	4,905,601	49.29	7,651,231	106.17
April	6,757,855	6,081,724	10,268,085	3,675,631	(9.99)	4,186,311	63.83	8,510,680	151.95
May	7,227,622	10,697,249	16,739,660	3,463,627	48.00	6,102,411	47.70	8,572,038	118.60
June	7,126,766	10,604,512	21,000,048	3,476,746	48.77	10,395,536	98.03	13,872,232	194.62
July	9,710,614	13,999,803	18,563,947	4,289,139	44.17	4,564,144	32.60	8,853,333	91.17
August	7,627,820	13,055,303	15,785,368	5,427,483	71.16	2,730,065	20.81	8,157,548	6.63
September	7,112,759	14,075,786	17,347,893	6,963,027	97.89	3,272,107	23.25	10,236,134	143.90
October	9,460,822	13,217,113	—	3,756,291	39.70	—	—	—	—
November	8,945,962	10,722,246	—	1,776,284	19.85	—	—	—	—
December	7,084,156	12,493,388	—	5,415,232	76.44	—	—	—	—
Total	90,992,675	131,594,061	141,654,184	40,601,386	44.62	46,498,834	48.87	76,152,413	116.27

Return to  
BUREAU OF INTERNATIONAL RELATIONS  
University of California

TABLE No. 15.—Comparison of monthly foreign trade of the Philippine Islands during the last three years—Continued.

Month.	Exports.			Increase of 1917 over 1916.		Increase of 1918 over 1917.		Increase of 1918 over 1916.	
	1916	1917	1918	Amount.	Percent.	Amount.	Percent.	Amount.	Per cent.
January.....	P11,902,944	P10,954,129	P23,648,302	(P948,824)	(7.98)	P12,694,182	115.89	P11,745,358	98.88
February.....	9,029,570	10,906,610	24,245,625	1,877,040	20.78	13,339,015	122.31	15,216,056	168.51
March.....	12,393,238	16,455,185	20,831,667	4,061,949	32.78	4,876,482	26.59	8,438,431	68.09
April.....	9,096,170	9,538,215	14,021,944	4,492,045	5.41	4,433,729	46.24	4,925,774	54.15
May.....	14,874,944	10,543,360	19,631,044	(4,331,634)	(29.12)	9,087,684	86.18	4,756,050	31.97
June.....	16,636,339	19,042,251	17,002,158	2,405,912	14.47	(2,040,068)	(10.71)	365,819	2.20
July.....	14,212,900	13,527,260	30,359,995	(885,640)	(4.82)	16,832,735	124.44	16,147,095	113.61
August.....	9,759,580	23,627,650	22,219,564	13,868,070	142.09	(1,408,086)	(5.96)	12,459,974	127.68
September.....	12,106,964	20,606,559	30,848,598	8,499,595	70.20	10,242,029	49.70	18,741,624	154.80
October.....	9,985,677	25,069,433	---	15,083,806	151.05	---	---	---	---
November.....	10,300,382	16,272,361	---	5,971,979	57.98	---	---	---	---
December.....	9,575,609	14,695,559	---	5,089,950	52.63	---	---	---	---
Total.....	139,874,365	191,208,613	202,808,887	51,334,248	36.70	74,454,045	55.05	92,496,180	84.08

NOTE.—Figures in parentheses are decreases.

The total value of imports to September 30, 1918, is 49 per cent greater than the total value of imports for the same period of 1917 and 116 per cent over that of the same period of 1916. The leading imports are cotton and its manufactures, iron and steel and their manufactures, coal, fish and fish products, fibers (vegetable and textile), paper and its manufactures, leather and its manufactures, meat products, chemicals, dyes, medicines, dry products, oils (not illuminating), vegetables, wood and its manufactures, illuminating oil, instruments and apparatus, glass and glassware, cacao, tobacco and its manufactures and books.

The value of imports as shown in this bulletin is the foreign value of the merchandise in the country whence imported plus the cost of packing and all other expenses incident to placing the goods in condition for shipment to the islands.

The total value of exports up to September 30, 1918, is 55.05 per cent greater than the total value of exports for the same period of 1917 and 84.08 per cent over that of the same period of 1916. The principal exports are hemp, coconut oil, sugar, tobacco and its manufactures, copra, maguay, knotted hemp, hats, embroideries, lumber, shells and pearl buttons. Coconut oil is rapidly developing into one of the leading exports of the islands. At the end of September, 1918, there were seventeen mills in operation which produced 14,989 tons of oil during the same month. From January 1 to September 30, 1918, 96,350 tons of oil were produced.

The value of exports as shown in this bulletin is the price of the goods as sold by the exporter to the foreign consignee; however, in those cases that exported merchandise are sold abroad to the account of the exporter, the export values include all expenses incident to placing the goods in condition for shipment from the islands.

TABLE No. 16.—*Foreign trade of the Philippine Islands showing per cent of United States trade to total trade.*

[Source: Bureau of Customs.]

Year.	Imports from—			Exports to—			Total trade with—	
	United States.	All countries.	Per cent.	United States.	All countries.	Per cent.	United States.	All countries.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1906	8,955,772	52,807,536	17.0	23,738,578	65,285,784	36.4	32,694,350	118,083,320
1907	10,135,076	60,907,620	16.6	20,658,774	66,195,734	31.2	30,793,850	127,103,354
1908	10,203,672	58,372,240	17.5	20,901,510	66,202,144	32.1	31,106,182	123,574,384
1909	12,890,662	62,168,838	20.7	29,453,026	69,848,674	42.2	42,343,658	132,017,512
1910	40,137,084	99,438,722	40.4	34,483,450	81,286,926	42.4	74,620,534	180,696,648
1911	38,313,974	96,048,814	39.9	39,845,254	89,674,254	44.4	78,159,228	185,723,068
1912	48,618,020	123,335,802	39.4	45,764,014	109,846,600	41.7	94,382,034	233,182,402
1913	53,352,522	106,625,572	50.0	32,898,036	95,545,912	34.4	86,220,558	202,171,484
1914	48,022,802	97,177,306	49.4	48,855,420	97,379,268	50.2	96,878,222	194,556,574
1915	52,762,138	98,624,367	53.5	47,306,422	107,676,008	44.0	100,068,560	206,250,375
1916	45,725,346	90,992,675	50.3	71,296,265	139,874,365	51.0	117,021,611	230,867,040
1917	75,241,296	131,594,061	57.2	126,468,717	191,208,613	66.1	201,710,012	322,802,674
1918 <sup>a</sup>	53,760,742	89,956,940	59.8	76,452,837	119,510,245	64.0	180,203,579	209,467,185

<sup>a</sup> From January 1 to June 30 only.

TABLE No. 17.—*Total and per capita foreign trade of important countries.*

[Source: Statistical Abstract of the United States, 1916.]

Country.	Year.	Population.	Foreign trade.		Per capita.	
			Imports.	Exports.	Imports.	Exports.
1. Switzerland	1915	3,886,000	\$629,084,000	\$642,304,000	\$161.88	\$165.29
2. Cuba	1915	2,517,000	281,770,000	470,956,000	111.95	187.11
3. Denmark	1914	2,890,000	426,274,000	418,202,000	147.50	144.71
4. United Kingdom	1915	46,407,000	7,327,306,000	3,745,926,000	157.89	80.72
5. Norway	1914	2,487,000	304,060,000	211,394,000	122.26	85.00
6. Argentina	1915	7,885,000	437,902,000	1,077,482,000	55.54	136.65
7. Porto Rico	1916	1,216,000	77,902,000	133,463,000	64.06	109.76
8. Uruguay	1915	1,316,000	72,552,000	151,594,000	55.13	115.19
9. Sweden	1914	5,680,000	389,622,000	413,982,000	68.60	72.88
10. United States	1916	103,559,000	4,395,768,000	8,544,796,000	43.09	84.96
11. France	1915	39,700,000	3,116,754,000	1,166,608,000	78.51	29.39
12. Costa Rica	1915	420,000	8,948,000	19,944,000	21.33	47.49
13. Italy	1915	36,120,000	1,285,944,000	855,534,000	35.60	23.69
14. Spain	1914	20,356,000	390,960,000	327,710,000	19.21	16.10
15. Brazil	1915	24,600,000	292,860,000	515,560,000	11.90	20.96
16. Honduras	1915	562,000	11,748,000	6,284,000	20.90	11.18
17. Bolivia	1915	2,890,000	17,578,000	74,134,000	6.08	25.65
18. Venezuela	1915	2,816,000	26,940,000	46,808,000	9.57	16.62
19. PHILIPPINES	1915	a 9,503,000	98,624,000	107,626,000	10.38	11.33
PHILIPPINES	1916	a 9,670,000	90,993,000	139,874,000	9.41	14.47
PHILIPPINES	1917	a 9,839,000	131,594,000	191,209,000	13.38	19.43
20. Japan	1915	55,084,000	530,320,000	705,474,000	9.63	12.81
21. Nicaragua	1915	704,000	6,318,000	9,134,000	8.97	12.97
22. Columbia	1915	5,072,000	34,728,000	55,758,000	6.85	10.99
				</		

a Figures are from Prof. Beyer's "Population of the Philippine Islands in 1916."

TABLE No. 18.—Commercial relation of important countries with the Philippines.

[Source: Reports of the Bureau of Customs and 1916 Statistical Abstract of the United States.]

Country.	Area. <i>Sq. miles.</i>	Population.		Foreign commerce.				Per cent of trade.		
		Latest available data since 1915.	Per square mile.	Year.	Total imports.	Imports from Philip- pines in 1917.	Total exports.	Exports to Philippines in 1917.	With P. I. to its total trade.	With P. I. to total P. I. trade.
1. United States	3,627,557	<i>Thousand</i> 103,559	28.55	1916	<i>Thousand.</i> P5,395,768	P126,468,717	<i>Thousand.</i> P8,544,796	P75,241,295	1.45	62.49
2. Japan	147,698	55,084	372.95	1915	530,320	14,655,943	705,474	16,432,436	2.51	9.63
3. United Kingdom	121,438	46,407	382.15	1915	7,327,306	20,610,169	3,745,926	5,922,471	.24	8.22
Canada	3,729,665	8,075	2.17	1915	1,015,634	1,040,628	1,483,222	28,560	.05	.35
Australasia	3,078,182	6,035	1.96	1915	827,638	2,380,541	827,626	3,597,566	.37	1.85
4. China	4,278,352	336,042	78.54	1915	583,926	4,324,516	512,686	8,514,651	1.17	3.95
5. Spain	196,057	20,356	104.36	1914	390,960	3,474,055	327,710	1,406,968	.68	1.51
6. Netherlands	13,199	6,340	480.34	1914	2,272,498	308,888	2,004,966	176,910	.004	.06
Dutch East Indies	739,545	38,000	51.38	1914	629,084	366,153	515,106	2,000,172	.40	.77
7. Switzerland	15,945	3,886	243.71	1915	629,084	366,153	642,304	753,974	.09	.35
8. Siam	195,000	8,150	41.79	1916	55,834	44,465	78,422	708,984	.56	.23
9. Italy	110,660	36,120	326.45	1915	1,285,944	234,522	855,534	192,790	.02	.13
10. Denmark	15,047	2,890	192.06	1914	426,274	—	418,202	87,417	.01	.03
11. Belgium	11,373	7,658	673.35	1913	1,949,246	—	1,434,304	43,606	.001	.01
12. Norway	124,675	2,487	19.95	1914	304,060	—	211,394	29,858	.006	.009
13. Austria-Hungary	261,241	52,368	200.46	1913	1,383,076	—	1,124,494	2,063	—	—

BUREAU OF INTERNATIONAL RELATIONS  
 Report to  
 University of California

TABLE No. 19.—*Total oriental trade of the Philippine Islands.*

[Source: Bureau of Customs.]

Country.	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918 <sup>a</sup>
Australasia .....	P5,531,430	P5,924,092	P5,998,134	P6,052,626	P7,916,924	P6,590,002	P6,055,802	P3,937,567	P3,115,795	P5,977,807	P4,747,614
British East Indies .....	3,211,760	3,421,735	4,202,700	4,323,710	7,370,270	3,984,732	3,802,882	3,665,228	4,772,756	4,339,107	2,928,236
China .....	7,215,478	8,234,286	6,634,614	5,083,316	6,027,866	7,661,436	7,211,756	7,905,655	9,705,062	12,839,167	8,974,878
Dutch East Indies .....	648,096	966,006	634,178	850,748	1,176,300	974,488	219,226	262,568	2,429,913	2,490,819	1,154,086
French East Indies .....	11,098,900	9,441,428	13,368,294	13,710,512	22,802,178	5,439,842	6,279,490	13,892,463	13,019,776	11,309,048	6,518,578
Hongkong .....	6,021,840	5,208,570	3,445,468	3,668,672	4,876,192	7,416,752	4,646,130	7,347,405	8,426,851	11,154,093	5,440,496
Japan (including Japan-China and Korea) .....	3,461,402	3,788,758	5,822,764	6,489,508	11,257,114	14,892,304	13,578,848	15,181,336	19,460,128	31,428,350	18,759,922
Siam .....	579,852	825,866	261,486	935,756	732,488	954,660	691,036	642,243	653,949	753,449	709,045
Total .....	37,768,758	37,810,742	40,367,638	41,114,848	62,159,332	47,914,216	43,485,170	53,774,465	61,589,230	80,291,840	49,232,855
Per cent of total Philippine Islands trade .....	30.56	28.27	22.34	22.14	26.66	23.70	22.35	26.07	26.68	24.87	23.50

<sup>a</sup> From January 1 to June 30 only.

TABLE No. 20—*Internal revenue licenses issued from 1909 to 1917, inclusive.*

[Source: Bureau of Internal Revenue.]

39

Nature of business.	Number of licenses issued—									
	1909 <sup>a</sup>	1910	1911	1912	1913	1914	1915	1916	1917	
Brewers	1	1	1	201	6	15	15	15	20	
Chiropradists, manicurists, tattooers, etc	415	201	701	1,472	2,028	191	75	100	93	
Common carriers, etc						3,163	18,095	9,964	9,594	
Contractors, warehousemen, etc						1,026	5,094	6,838	7,620	
Customs and immigration brokers						20	25	30	29	
Distillers	37	24	31	23	20	21	72	71	88	
Lawyers, medical practitioners, etc	1,975	1,944	2,097	1,558	1,717	1,430	1,308	1,338	1,521	
Manufacturers of, and wholesale dealers in motor spirits, mineral oils, etc	263	124	105	106	81	83	145	77	173	
Manufacturers of cigars and cigarettes	60,815	64,945	74,037	89,147	95,567	80,911	72,525	70,858	79,691	
Merchants and manufacturers						277	509	358	429	
Midwives, cirujanos ministrantes, etc						184	259	208	163	
Money lenders						81	85	78	66	
Pawnbrokers	64	65	70	65	83	81	85	78	195	
Pearl fishing								173	173	
Peddlers of merchandise						19,498	34,528	37,506	41,904	
Pharmacists, farmers and opticians						422	660	979	1,118	
Photographers, lithographers, etc	189	183	253	283	324	203	409	417	488	
Printers and publishers							155	147	135	
Procuradores judiciales, agentes de negocios, etc	174	179	179	184	358	330	596	591	731	
Real-estate and merchandise brokers	49	40	32	26	24	29	299	380	412	
Rectifiers							35	28	35	
Registered dealers in prohibited drugs							1,445	1,032	1,170	
Retail dealers in fermented liquors	1,262	1,315	1,375	1,261	1,236	1,242	1,445	1,032	1,170	
Retail dealers in tuba, basi, and tapuy				9,871	19,482	24,770	28,286	33,960	36,508	
Retail dealers of leaf tobacco							7,174	8,683	11,055	
Retail liquor dealers							828	873	916	
Retail peddlers of alcoholic and tobacco products	1,270	1,370	1,272	900	921	861	750	794	1,332	
Retail "vino" dealers	1,055	774	782	662	1,338	1,959	1,917	20,963	30,966	
Retail "vino" dealers	21,094	21,728	23,585	25,091	25,717	22,862	19,917	20,998	30,966	
Signs, signboards, and billboards						430	915	719	904	
Sponge fishing									43	
Stockbrokers	73	145	218	207	220	103	98	107	110	
Tobacco dealers	27,815	28,976	29,721	31,768	33,200	32,462	30,061	31,466	37,083	
Tobacco manufacturers	155	80	67	43	68	58	67	86	8	
Veterinarians	408	440	472	523	599	355	249	19	8	
Wholesale dealers in fermented liquors	169	134	143	596	337	309	302	298	342	
Wholesale liquor dealers										
Wholesale peddlers of alcoholic and tobacco products	509	538	553	705	792	810	768	862	1,176	
Miscellaneous	(b)	(b)	(b)	(b)	(b)	(b)	74	105	145	
	4,527	4,104	4,468	4,970	4,936	6,043	6,910	6,478	7,364	
Total	122,897	127,379	140,224	169,722	189,116	200,500	234,461	238,444	276,008	

<sup>a</sup> No data available prior to 1909.<sup>b</sup> See "Retail peddlers of alcoholic and tobacco products."





TABLE No. 22.—Freight rates of chief commodities from Manila to insular ports, showing difference in 1913 and 1918 on vessels more than 225 tons net register, per ton or cubic meter.\*

[Source: Order No. 16, Board of Public Utility Commissioners, as amended.]

Commodity.	Classification.	Aparri.		Pandan.		Legaspi.		Iloilo.		Cebu.		Tacloban.		Zamboanga.		Jolo.		Balabac.	
		1918	1913	1918	1913	1918	1913	1918	1913	1918	1913	1918	1913	1918	1913	1918	1913	1918	1913
<b>Hemp:</b>																			
Cable rope	B	5.60	12.60	4.40	19.60	5.30	11.90	4.90	11.05	5.40	12.15	5.50	12.40	6.60	14.65	6.90	15.55	6.60	14.85
Cloth (not sinamay)	B	8.15	18.35	6.30	14.20	7.70	17.80	7.10	16.00	7.90	17.80	7.80	17.55	10.70	21.80	10.10	22.70	9.60	21.60
Compressed or baled	2-C	12.20	27.45	9.45	21.30	11.55	26.00	10.65	23.95	11.80	26.55	11.70	26.35	14.50	32.60	15.15	34.10	14.45	32.50
Loose	3-C	4.05	9.10	3.15	7.10	3.85	8.65	3.55	8.00	3.95	8.35	3.90	8.80	4.85	10.95	5.05	11.35	4.80	10.80
Stalks	C	6.10	13.70	4.95	11.10	5.85	13.15	5.40	12.15	6.90	13.80	6.00	13.50	7.10	16.00	7.40	16.65	7.10	16.95
Twine	A	8.15	13.35	6.30	14.20	7.70	17.30	7.10	16.00	7.90	17.80	7.80	17.55	10.70	21.80	10.10	22.70	7.60	21.60
Copra, sacked or loose	2-C																		
Sugar:																			
Raw sacked	C	4.05	9.10	3.15	7.10	3.85	8.65	3.55	8.00	3.95	8.85	3.90	8.80	4.85	10.95	5.05	11.35	4.80	10.80
Refined	A	6.10	13.70	4.95	11.10	5.85	13.15	5.40	12.15	6.90	13.80	6.00	13.50	7.10	16.00	7.40	16.65	7.10	16.95
<b>Tobacco:</b>																			
Leaf																			
Manufactured	C-15%	3.45	7.75	2.70	6.05	3.25	7.30	3.00	6.75	3.35	7.55	3.30	7.45	4.10	9.95	4.30	9.70	4.10	9.20
Rice in bags	A	6.10	13.70	4.95	11.10	5.85	13.15	5.40	12.15	5.90	13.30	6.00	13.50	7.10	16.00	7.40	16.65	7.10	16.95
Silk and satins	C	4.05	9.10	3.15	7.10	3.85	8.65	3.55	8.00	3.95	8.85	3.90	8.80	4.85	10.95	5.05	11.35	4.80	10.80
Flour: Wheat, rice, rye, etc	2-B	11.20	25.20	8.40	18.90	10.60	23.80	9.80	22.10	10.80	24.20	11.00	24.80	13.20	29.70	13.80	31.05	13.20	29.70
Leather goods	B	5.60	12.60	4.40	9.60	6.30	11.90	4.90	11.05	5.40	12.15	5.50	12.40	6.60	14.65	6.90	15.55	6.60	14.85
Iron and steel	A	6.10	13.70	4.95	11.10	5.85	13.15	5.40	12.15	5.90	13.30	6.00	13.50	7.10	16.00	7.40	16.65	7.10	16.95
Jusi, piña and sinamay cloth	C	4.05	9.10	3.15	7.10	3.85	8.65	3.55	8.00	3.95	8.85	3.90	8.80	4.85	10.95	5.05	11.35	4.80	10.80
Logs: squared or hewn	2-B	11.20	25.20	8.40	18.90	10.60	23.80	9.80	22.10	10.80	24.20	11.00	24.80	13.20	29.70	13.80	31.05	13.20	29.70
	D	10.30	23.20	9.35	21.15	10.05	22.60	9.40	21.15	9.90	22.30	10.20	22.95	11.60	25.00	11.40	25.65	11.30	25.40

\* One ton is equal to 2,205 pounds or 1,000 kilos.

NOTE.—Classification of important commodities:

- Class A. Books, cacao, ground coconut, coffee, gasoline, lard, meat, condensed milk, dry goods in bales or cases, pickled onions, table salt, boots and shoes, tea, drugs, dry goods, groceries, liquors, and liquids.
- Class B. Automobiles, coconut oil, castor oil, fresh onions, imported oranges, potatoes, imported soap, fresh vegetables, animals, Chinaware, cooking utensils, stove, furniture and trunks.
- Class C. Bananas, castor beans, dried beans, green beans, fresh cabbage, sugar cane, asbestos, cement, loose coconuts, native corn, fresh native fruits, magney leaves, sacked or loose maize, garlic, palay, native soap, agricultural implements, brick, matches, mats, native earthenware and poultry.

TABLE NO. 23.—*Passenger rates from Manila to Insular ports, showing difference in 1913 and 1918.*

[Source: Order No. 16, Board of Public Utility Commissioners, as amended.]

Port.	First Class.		Second Class.		Third Class.	
	1913	1918	1913	1918	1913	1918
Aparri.....	P30.65	P45.95	P21.50	P32.20	P12.30	P18.40
Pandan.....	22.40	33.60	15.70	23.55	8.40	12.55
Legaspi.....	28.60	42.85	20.00	30.00	11.45	17.15
Iloilo.....	27.20	40.80	19.10	28.60	10.90	16.35
Cebu.....	31.35	47.00	21.95	32.90	12.55	18.80
Tacloban.....	29.85	44.75	20.90	31.35	11.15	16.70
Zamboanga.....	41.55	62.80	29.10	43.60	16.65	24.95
Jolo.....	43.20	64.80	30.30	45.40	17.30	25.95
Balabac.....	38.20	57.25	26.75	40.10	15.30	22.90

NOTE.—Children 3 years of age and over, or exceeding 1 meter in height, but under 12 years of age, shall be carried at one-half of the adult rate, according to class.

TABLE NO. 24.—*Land transportation (Manila Railroad Company.)*

## SOUTHERN LINE.

Year.	Total kilome- terage operated (all tracks.)	Cars.			Passenger.		Freight.	
		Pas- senger.	Freight.		Number.	Revenue.	Tons.	Revenue.
			Number.	Capacity (tons.)				
1910.....	110.891	38	190	a 4,872	1,073,014	P150,625.07	49,085	P40,790.07
1911.....	142.013	59	241	3,423	1,809,810	542,907.58	169,231	176,634.78
1912.....	274.330	61	447	5,586	2,366,836	1,003,594.67	261,269	340,157.31
1913.....	332.861	79	554	8,582	2,635,343	1,209,987.82	308,175	448,432.15
1914.....	442.516	84	554	7,707	2,145,648	1,150,075.36	258,832	538,996.72
1915.....	512.061	85	667	10,871	2,031,651	1,102,308.34	273,037	604,218.94
1916.....	573.180	87	663	(b)	2,064,691	1,158,610.34	349,330	800,593.71
1917.....	579.235	97	663	(b)	2,881,393	1,642,878.55	494,239	1,271,076.69

## NORTHERN LINE.

1910.....	(b)	145	694	(b)	(b)	(b)	(b)	(b)
1911.....	505.675	156	765	(b)	3,137,233	1,663,091.03	462,744	965,010.40
1912.....	537.266	167	889	(b)	3,344,689	1,819,145.18	558,208	918,389.33
1913.....	550.742	154	864	c 7,667	3,748,194	1,947,891.94	792,853	1,272,544.92
1914.....	(b)	164	898	(b)	(b)	1,785,346.06	(b)	1,153,361.16
1915.....	585.814	161	901	9,012	2,357,311	1,501,955.09	391,401	930,646.26
1916.....	601.013	161	897	9,095	2,183,620	1,510,757.29	469,190	1,147,220.17
1917.....	607.649	145	946	9,422	2,836,111	1,962,270.21	565,591	1,554,520.29

a Capacity for 174 freight cars.

b Data not available.

c Capacity for 861 cars.

TABLE NO. 25.—Automobiles registered, 1912-1918.

[Source: Bureau of Public Works.]

Provinces and cities.	1912-1915		1916		1917		1918 <sup>a</sup>	
	Num-ber.	Capacity (pas-senger.)	Num-ber.	Capacity (pas-senger.)	Num-ber.	Capacity (pas-senger.)	Num-ber.	Capacity (pas-senger.)
Albay	65		80	995	59	285	94	443
Ambos Camarines	24		34	257	16	71	40	212
Antique					3	15	5	24
Bataan	2		1	5	5	25	2	9
Batanes								
Batangas	27		42	269	31	153	70	391
Bohol	7		22	122	8	36	66	424
Bulacan	76		86	580	66	425		
Cagayan	2		5	73	2	10	17	117
Capiz	15		27	168	16	80	59	373
Cavite	17		14	68	18	95	48	256
Cebu	81		121	796	101	469	173	943
Ilocos Norte	11		27	174	10	47	31	181
Ilocos Sur	42		62	503	36	191	85	460
Iloilo	142		155	803	164	744	235	1,247
Isabela							1	10
Laguna	43		43	299	37	178	75	392
La Union	18		18	119	1	5	19	105
Leyte	18		36	640	8	39	64	359
Masbate	2							
Mindanao and Sulu	55							
Agusan								
Bukidnon								
Cotabato								
Davao			5	22	8	37	38	195
Lanao			5	25			4	20
Sulu			11	59	3	17	17	86
Zamboanga			43	284	12	57	41	205
Mindoro								
Misamis	4		9	48	21	105	55	414
Mountain	4		1	5	15	73	6	30
Nueva Ecija	18		24	130	21	106	46	260
Nueva Vizcaya								
Occidental Negros	176		244	1,367	121	608	265	1,440
Oriental Negros	10		17	119	14	74	26	169
Palawan								
Pampanga	45		73	399	68	348	97	504
Pangasinan	40		36	198	51	253	72	366
Rizal	140		148	795	100	518	137	747
Samar	11		10	70	4	22	14	92
Sorsogon	14		27	240	3	19	43	270
Surigao							1	2
Tarlac	8		7	37	6	30	19	111
Tayabas	82		57	387	38	208	58	365
Zambales			1	6			4	20
Manila	1,701	6,560	1,692	9,185	2,312	11,400	2,353	11,241
Baguio	21		38	249	249		35	239
Total	2,921	6,560	3,221	19,496	3,328	16,743	4,415	22,722

<sup>a</sup> From January 1 to June 30 only.

TABLE No. 26.—*Trucks registered, 1912–1918.*

[Source: Bureau of Public Works.]

Provinces and cities.	1912-1915		1916		1917			1918 <sup>a</sup>		
	Number.	Capacity (tonnage.)	Number.	Capacity (tonnage.)	Number.	Capacity.		Number.	Capacity.	
						Tonnage.	Pas-senger.		Tonnage.	Pas-senger.
Albay	22	-----	10	10	13	29	150	24	6	745
Ambos Camarines	14	-----	14	43	22	9	670	27	8	820
Antique	-----	-----	-----	-----	-----	-----	-----	1	-----	15
Bataan	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Batanes	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Batangas	-----	-----	-----	-----	1	3	-----	2	-----	35
Bohol	-----	-----	-----	-----	1	-----	20	2	-----	40
Bulacan	2	-----	1	5	1	5	-----	3	5	35
Cagayan	2	-----	-----	-----	2	8	-----	2	-----	60
Capiz	-----	-----	-----	-----	5	8	110	5	10	100
Cavite	1	-----	-----	-----	-----	-----	-----	11	10	160
Cebu	9	-----	5	13	7	16	86	26	6	445
Ilocos Norte	4	-----	4	7	4	6	86	5	10	70
Ilocos Sur	12	-----	-----	-----	1	3	-----	6	2	90
Iloilo	4	-----	6	8	4	14	50	6	-----	115
Isabela	-----	-----	-----	-----	1	2	-----	1	5	-----
Laguna	21	-----	20	104	26	115	-----	16	53	105
La Union	-----	-----	-----	-----	-----	-----	-----	3	8	30
Leyte	28	-----	35	118	34	146	170	40	58	980
Masbate	2	-----	-----	-----	-----	-----	-----	-----	-----	-----
Mindanao and Sulu	18	-----	-----	-----	-----	-----	-----	-----	-----	-----
Agusan	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bukidnon	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Cotabato	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Davao	-----	-----	-----	-----	4	10	-----	7	11	70
Lanao	-----	-----	9	139	5	-----	130	10	3	190
Sulu	-----	-----	3	-----	4	19	-----	4	-----	100
Zamboanga	-----	-----	1	6	3	11	20	15	8	370
Mindoro	-----	-----	-----	-----	-----	-----	-----	1	4	-----
Misamis	1	-----	2	2	4	8	32	14	24	165
Mountain	-----	-----	-----	-----	-----	-----	-----	1	-----	30
Nueva Ecija	-----	-----	1	5	2	-----	32	3	-----	45
Nueva Vizcaya	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Occidental Negros	4	-----	3	13	6	24	-----	14	23	215
Oriental Negros	2	-----	3	5	6	19	30	7	2	165
Palawan	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pampanga	-----	-----	1	2	1	2	-----	5	4	70
Pangasinan	7	-----	1	-----	7	9	120	18	-----	495
Rizal	8	-----	4	14	6	10	48	8	23	15
Romblon	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Samar	-----	-----	-----	-----	-----	-----	-----	1	-----	15
Sorsogon	7	-----	5	3	15	62	-----	8	-----	195
Surigao	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Tarlac	-----	-----	-----	-----	-----	-----	-----	1	-----	15
Tayabas	5	-----	1	9	-----	-----	-----	2	7	-----
Zambales	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Manila	278	-----	196	<sup>b</sup> 458	164	595	112	209	758	320
Baguio	5	-----	16	55	3	4	70	4	4	70
Total	456	-----	341	1,020	352	1,137	1,236	512	1,052	6,340

<sup>a</sup> From January 1 to June 30 only.<sup>b</sup> The capacity of 62 trucks is unknown.

TABLE NO. 27.—*Rice mills.*

[Source: Bureau of Agriculture.]

Province.	Number of rice mills.									Total maximum daily capacity.	
	Steam.	Petroleum.	Hand power.	Water.	Hydraulic.	Gasolene.	Oil.	Animal power.	Unclassified.		
Albay .....		1		14			2		5	22	Ca- vans. 947
Antique .....			1							1	2
Bataan .....	5									5	820
Batangas .....	22	25				4				51	5,531
Bohol .....			1							1	16
Bulacan .....	40									40	9,066
Capiz .....	4		23							27	990
Cavite .....	14	1					1			16	3,059
Cotabato .....	1									1	150
Ilocos Norte .....	1									1	120
Iloilo .....	3		22							25	1,794
Laguna .....	22	20		12	11	5			2	72	5,330
Lanao .....		3								3	108
Leyte .....			6							6	55
Mindoro .....		1				1				2	160
Nueva Ecija .....	7	2								9	3,880
Negros Occidental .....	4	5								9	450
Pangasinan .....	5									5	1,525
Sorsogon .....			2	2						4	56
Tarlac .....	6	1								7	1,090
Tayabas .....	3	8		12	3	2		2	2	32	796
Zambales .....		3							1	4	244
Total .....	137	70	55	40	14	12	3	2	10	343	36,189

NOTE.—The total daily capacity shown above does not represent the actual output of the mills but their potential maximum capacity.

Return to  
BUREAU OF INTERNATIONAL RELATIONS  
University of California

TABLE No. 28.—*Cigar production and tax collected.*

[Source: Bureau of Internal Revenue.]

Year ending—	Number of man- ufactur- ers.	Annual production.			Increase or decrease.		Tax.
		Local con- sumption.	Exported.	Total.	Quantity.	Per cent.	
June 30—							
1906		74, 184, 537	94, 341, 542	168, 526, 079			\$1, 458, 644
1907		79, 476, 459	117, 766, 660	197, 243, 119	28, 717, 040	17.04	18, 985, 087
1908		82, 986, 278	115, 768, 509	198, 754, 787	1, 511, 668	0.77	19, 539, 444
1909	263	86, 800, 520	117, 849, 381	204, 649, 901	5, 895, 114	2.97	20, 434, 707
1910	124	89, 272, 890	196, 288, 438	285, 561, 328	80, 911, 427	39.54	21, 394, 669
1911	105	96, 115, 525	132, 135, 766	228, 251, 291	(57, 310, 037)	(20.07)	22, 663, 044
1912	106	109, 924, 014	174, 994, 831	284, 918, 845	56, 667, 554	24.83	25, 568, 758
1913	81	96, 193, 811	209, 457, 618	305, 651, 429	20, 732, 584	7.28	22, 829, 152
December 31—							
1913 <sup>a</sup>	81	94, 048, 488	188, 048, 508	282, 096, 996			22, 294, 617
1914	83	90, 624, 757	152, 509, 443	243, 134, 200	(38, 962, 296)	(13.81)	21, 076, 861
1915	77	46, 384, 157	137, 924, 235	184, 308, 392	(58, 825, 808)	(24.19)	28, 174, 655
1916	77	80, 518, 378	191, 349, 900	271, 868, 278	87, 559, 886	47.51	29, 066, 727
1917	173	104, 460, 749	307, 677, 458	412, 138, 207	140, 269, 929	51.59	126, 262, 954
1918 <sup>b</sup>		62, 468, 500	147, 896, 766	210, 365, 266			

<sup>a</sup> From January to December 31.<sup>b</sup> From January 1 to June 30 only

NOTE.—Figures in parentheses indicate decreases.

TABLE No. 29.—*Cigarette production and tax collected.*

[Source: Bureau of Internal Revenue.]

Year ending—	No. of man- ufac- turers.	Annual production.			Increase or decrease.		Tax.
		Local consumption.	Exported.	Total.	Quantity.	Per cent.	
June 30—							
1906		3, 509, 038, 750	21, 062, 844	3, 530, 101, 594			
1907		3, 509, 999, 575	158, 349, 804	3, 668, 349, 379	138, 247, 785	3.92	\$236, 045, 549
1908		3, 774, 303, 310	72, 387, 396	3, 846, 690, 706	178, 341, 327	4.86	238, 465, 738
1909	263	4, 122, 385, 209	53, 250, 328	4, 175, 635, 537	328, 944, 831	8.55	276, 498, 259
1910	124	4, 138, 647, 668	34, 859, 581	4, 173, 507, 249	(2, 128, 288)	(0.05)	330, 880, 407
1911	105	4, 058, 608, 123	35, 425, 865	4, 094, 028, 988	(79, 478, 261)	(1.90)	406, 792, 046
1912	106	4, 369, 153, 048	35, 776, 760	4, 404, 929, 808	310, 900, 820	7.59	437, 671, 195
1913	81	4, 449, 340, 088	51, 431, 838	4, 500, 771, 926	95, 842, 118	2.18	445, 989, 111
December 31—							
1913 <sup>a</sup>	81	4, 338, 233, 154	46, 574, 093	4, 434, 807, 247			441, 304, 034
1914	83	4, 366, 293, 508	45, 628, 804	4, 411, 922, 312	(22, 884, 935)	(0.52)	438, 077, 095
1915	77	3, 814, 861, 007	44, 746, 258	3, 859, 607, 265	(552, 315, 047)	(12.52)	456, 542, 950
1916	77	4, 135, 448, 970	45, 224, 542	4, 180, 673, 512	321, 066, 247	8.32	498, 351, 137
1917	173	4, 540, 519, 812	57, 834, 687	4, 598, 354, 499	417, 680, 987	9.99	538, 522, 382
1918 <sup>b</sup>		2, 335, 993, 375	32, 489, 985	2, 368, 483, 360			

<sup>a</sup> From January to December 31.<sup>b</sup> From January 1 to June 30 only

NOTE.—Figures in parentheses indicate decreases.

(To correct last columns of corresponding tables.)

Table No. 28 - Correct tax collected on cigars.

Year ending--	T a x
June 30-	
1906	\$181,998.61
1907	189,850.57
1908	195,394.44
1909	204,847.07
1910	213,546.69
1911	226,630.44
1912	255,687.58
1913	228,291.52
December 31	
1913 (a)	222,946.70
1914	210,763.61
1915	281,146.55
1916	190,967.27
1917	262,629.54
1918	314,110.01

Table No. 29 - Correct tax collected on cigarettes.

Year ending--	T a x
June 30-	
1906	\$2,357,683.14
1907	2,360,485.49
1908	2,534,657.88
1909	2,766,982.39
1910	3,308,804.07
1911	4,067,928.46
1912	4,376,711.95
1913	4,459,891.11
December 31	
1913 (a)	4,413,040.34
1914	4,380,770.95
1915	4,569,439.50
1916	4,983,611.37
1917	5,385,223.82
1918	5,536,566.72

(a) From Jan. 1, 1913 to Dec. 31, 1913.

(To correct last column of entries -  
pending advice)

Table No. 32 - Correct tax  
collected on cigars.

Year ending -	T & X
June 30-	
1906	141,881.81
1907	183,820.24
1908	132,324.44
1909	204,844.04
1910	213,242.22
1911	230,230.44
1912	222,222.22
1913	238,231.22
December 31	
1913 (a)	232,242.40
1914	210,103.01
1915	281,142.22
1916	190,224.24
1917	222,222.22
1918	214,110.01

Table No. 32 - Correct tax  
collected on cigarettes.

Year ending -	T & X
June 30-	
1906	43,324,223.14
1907	2,320,422.42
1908	2,224,222.22
1909	2,222,222.22
1910	2,222,222.22
1911	2,222,222.22
1912	2,222,222.22
1913	2,222,222.22
December 31	
1913 (a)	2,222,222.22
1914	2,222,222.22
1915	2,222,222.22
1916	2,222,222.22
1917	2,222,222.22
1918	2,222,222.22

(a) From Jan. 1, 1913 to Dec.  
31, 1913.



TABLE NO. 30.—*Output of domestic distilled spirits.*

[Source: Bureau of Internal Revenue.]

Year ending—	Num- ber of distil- leries.	Total Output.	Increase or decrease.		Internal Revenue Tax.
			Amount.	Per cent.	
<b>June 30—</b>		<i>Proof liters.</i>	<i>Proof liters.</i>		
1905 <sup>a</sup> -----	b 450	3,757,191			\$855,706.22
1906 -----	b 450	6,461,949	2,704,758	71.99	1,303,573.04
1907 -----	50	8,295,884	1,833,935	28.38	1,681,414.00
1908 -----	68	8,657,925	362,041	4.36	1,729,757.16
1909 -----	78	9,532,537	874,612	10.10	1,899,043.35
1910 -----	68	10,584,124	1,051,587	11.03	2,269,160.70
1911 -----	67	10,471,299	(112,825)	(1.07)	2,551,501.04
1912 -----	70	11,426,728	955,429	9.12	2,713,061.06
1913 -----	75	11,276,298	(150,430)	(1.32)	2,658,066.02
<b>December 31—</b>					
1913 -----	75	10,813,114			2,542,355.05
1914 -----	79	11,847,354	1,034,240	9.56	2,729,705.07
1915 -----	75	7,164,723	(4,682,631)	(39.52)	2,243,499.71
1916 -----	80	10,350,363	3,185,640	44.46	2,747,396.05
1917 -----	80	15,073,758	4,723,395	45.64	4,189,753.74
1918 <sup>c</sup> -----	76	8,054,172			2,346,686.04

<sup>a</sup> Act No. 1189 did not become operative on distilled spirits until January 1, 1905.<sup>b</sup> "Cauas," or small primitive stills.<sup>c</sup> From January 1 to June 30 only.

TABLE NO. 31.—*Factories and industrial establishments in the city of Manila in 1915.*<sup>a</sup>

[Source: Bureau of Labor.]

Rank.	Factories and establishments.	Num-ber.	Value of output in 1915.	Number of laborers engaged.				Aver- age daily hours of labor.
				Male.	Fe- male.	Child- ren under 16 years.	Total.	
23	Aërated water.....	9	P248, 460	136	16	3	155	9
44	Bacon.....	1	12, 000	5	—	—	5	10
32	Bed.....	1	112, 288	25	—	3	28	9
4	Bread, biscuit and sweetmeat.....	46	1, 603, 079	615	—	—	615	8. 8
3	Breweries.....	2	1, 745, 000	196	36	—	232	9
-----	Button.....	1	(c)	180	20	—	200	9
11	Candle.....	9	759, 821	46	—	—	46	9
19	Candy.....	11	366, 513	131	—	—	131	9
12	Caramel.....	14	756, 646	89	—	—	89	10
25	Carpentry shops.....	54	224, 011	147	—	—	147	9
31	Carriage and iron works.....	41	153, 123	268	—	1	269	9
20	Chocolate.....	29	318, 305	99	3	—	102	8
1	Cigar and cigarette.....	32	11, 777, 591	4, 961	3, 465	448	8, 874	9
41	Coffee grinding mills.....	2	15, 400	4	—	—	4	9
42	Comb.....	3	13, 131	7	—	—	7	9
14	Dried and smoked fish.....	27	689, 614	120	7	1	128	9
-----	Drug.....	1	(c)	11	3	—	14	9
40	Dyeing establishments.....	4	15, 754	19	—	—	19	7
6	Electric power plants.....	1	1, 536, 457	214	—	—	214	9. 5
47	Fertilizer.....	1	4, 061	8	—	—	8	(b)
46	Fish traps.....	17	4, 955	52	—	—	52	(b)
16	Foundries, iron works and machine shops.....	52	549, 734	425	—	—	425	9
13	Furniture.....	23	744, 518	304	—	3	307	9
24	Gas plants.....	1	243, 998	89	—	—	89	8
7	Hat and umbrella.....	15	1, 429, 671	316	149	31	496	8. 5
26	Ice plants.....	3	221, 684	84	—	—	84	13
48	Ink.....	1	692	1	—	—	1	(b)
43	Line.....	2	12, 979	4	—	—	4	9
17	Machinery, foundry and ship- yard establishments.....	1	512, 866	325	—	3	328	9. 5
18	Match.....	1	374, 000	123	100	30	253	9
39	Musical instruments.....	12	16, 795	24	—	—	24	8
29	Oil.....	1	189, 208	21	—	—	21	8
38	Preserved foodstuff.....	6	20, 000	15	55	—	70	9
15	Printing and book binding.....	43	633, 171	617	41	19	677	8
9	Rice mills.....	2	1, 141, 608	59	7	—	66	13
33	Rope.....	2	106, 000	78	30	27	135	8. 5
36	Sails constructing shops.....	4	27, 578	13	—	—	13	9
5	Saw mills.....	21	d1, 584, 937	636	—	1	637	9
34	Sculpture and marble cutting shops.....	18	74, 603	93	—	1	94	8
8	Shoe, slippers and other leather goods.....	172	1, 328, 987	800	40	2	842	8. 8
10	Soap.....	40	1, 023, 378	143	—	1	144	8
30	Soup-paste and sauce.....	13	163, 859	86	9	—	95	9
37	Spinnery.....	1	22, 400	12	—	—	12	9
22	Tanneries.....	7	272, 184	37	—	—	37	10
35	Tile and brick.....	2	66, 977	50	—	—	50	8. 5
21	Tin shops.....	51	299, 113	118	—	—	118	9. 5
28	Trunk, harness and other leather goods.....	9	192, 927	120	1	—	121	9
27	Weaving.....	1	214, 000	105	100	8	213	11
45	Wheel.....	2	10, 349	5	—	—	5	(b)
2	Wine and liquour distilleries.....	11	2, 490, 561	160	20	1	181	9
Total.....		823	34, 324, 986	12, 196	4, 102	583	16, 881	9

<sup>a</sup> Latest available data. <sup>b</sup> Without definite hours. <sup>c</sup> Unknown. <sup>d</sup> Production of 20 saw mills only.

TABLE No. 32.—*Approximate areas of the larger Islands of the Philippine Archipelago.*

[Source: Bureau of Forestry.]

Order.	Island.	Forest.		Cultivated land.	Cogon and open land.	Unexplored.	Total.
		Commer- cial.	Non- commer- cial.				
		<i>Ha.</i>	<i>Ha.</i>	<i>Ha.</i>	<i>Ha.</i>	<i>Ha.</i>	<i>Ha.</i>
1	Luzon .....	4,324,484	1,767,234	2,049,568	2,633,498	-----	10,774,784
2	Mindanao .....	7,355,008	150,272	79,488	259,466	1,477,376	9,321,600
3	Negros .....	644,736	45,056	214,208	370,112	-----	1,274,112
4	Samar .....	964,096	5,120	184,512	106,048	-----	1,259,776
5	Panay .....	96,256	225,984	280,448	555,776	4,736	1,163,200
6	Palawan .....	1,035,864	93,680	3,584	7,296	22,328	1,162,752
7	Mindoro .....	446,272	195,840	17,152	350,720	-----	1,009,984
8	Leyte .....	345,792	42,624	193,408	126,592	-----	708,416
9	Cebu .....	36,800	31,744	154,368	219,264	-----	442,176
10	Bohol .....	100,992	768	108,800	169,536	-----	380,096
11	Masbate .....	90,496	3,200	28,160	208,896	-----	330,752
12	Catanduanes .....	36,736	7,872	11,800	1,600	93,544	151,552
13	Basilan .....	72,832	13,368	9,984	23,360	-----	124,544
14	Busuanga .....	7,680	5,696	3,840	13,440	73,508	104,164
15	Marinduque .....	7,552	11,904	22,144	52,096	-----	93,696
16	Dinagat .....	76,032	-----	3,264	-----	-----	79,296
17	Jolo .....	27,160	6,964	13,700	25,192	-----	78,016
18	Tablas .....	32,768	1,280	12,800	22,400	3,456	72,704
19	Guimaras .....	4,544	3,328	11,008	42,176	-----	61,056
20	Polillo .....	21,108	27,700	7,192	-----	-----	56,000
21	Sibuyan .....	30,336	2,624	5,888	12,736	-----	51,584
22	Tawitawi .....	42,624	-----	-----	7,936	-----	50,560
23	Biliran .....	32,640	1,600	5,632	1,536	6,656	48,064
24	Siargao .....	41,920	-----	5,184	-----	-----	47,104
25	Culion .....	8,576	-----	-----	5,632	26,112	40,320
26	Ticao .....	14,464	1,600	6,080	13,312	-----	35,456
27	Siquijor .....	1,152	1,280	13,760	15,616	-----	31,808
28	Balabac .....	30,038	-----	-----	-----	-----	30,038
29	Dumaran .....	1,280	-----	-----	-----	27,904	29,184
30	Samal .....	8,964	7,584	6,000	5,228	-----	27,776
31	Other small islands .....	-----	-----	-----	-----	1,959,430	1,959,430
	Total .....	15,939,202	2,659,322	3,456,972	5,249,454	3,695,050	31,000,000
	Per cent to total area .....	51.417	8.579	11.151	16.934	11.919	100.00

160787—4

Returned to  
BUREAU OF INTERNATIONAL RELATIONS  
University of California

TABLE No. 33.—*Annual disposition of public lands from 1908 to 1917.*<sup>a</sup>

[Source: Bureau of Lands.]

Fiscal year.	Homestead.				Sales.				Leases.				Free patents.			
	Applications received.		Entries allowed.		Applications received.		Accomplished.		Applications received.		Executed.		Applications received.		Issued. <sup>b</sup>	
	Num-ber.	Area.	Num-ber.	Area.	Num-ber.	Area.	Num-ber.	Area.	Num-ber.	Area.	Num-ber.	Area.	Num-ber.	Area.	Num-ber.	Area.
		<i>Ha.</i>		<i>Ha.</i>		<i>Ha.</i>		<i>Ha.</i>		<i>Ha.</i>		<i>Ha.</i>		<i>Ha.</i>		<i>Ha.</i>
1908	2,196	27,411	392	4,852	51	584	6	76	56	20,278			2,045	9,837		
1909	1,854	25,010	157	2,138	45	544	1	16	33	8,097			4,495	11,964		
1910	1,427	18,192	101	1,372	68	3,862	1	16	74	10,500					135	653
1911	2,789	32,525	414	5,187	91	3,496	3	1,920	44	32,399			8	35	144	910
1912	3,105	36,963	309	3,855	180	8,270	5	64	112	37,392					381	1,868
1913	4,468	56,172	312	3,909	289	6,403	49	8,907	119	22,161					62	2,537
1914	5,552	72,361	587	7,599	337	7,690	15	177	98	26,645	7	6,798	1,191	5,890		
1915	7,465	94,907	758	10,017	431	8,333	23	749	78	15,616	2	448	1,376	5,089		
1916	8,198	103,505	3,345	37,990	301	3,610	169	2,757	103	20,693	5	1,706	1,137	5,848	2,076	2,985
1917	8,922	111,733	3,330	69,541	683	16,801	70	893	166	50,604	39	13,103	1,819	9,070	2,216	6,702

<sup>a</sup> No data available for 1918.<sup>b</sup> Free Patent is issued five years after the filing of an application.

The public lands of which there are 7,240,500 hectares suitable and available for agricultural purposes cover about 24 per cent of the entire area of the Archipelago and are disposed of by homesteads, leases, sales, and free patents. During 1917, 8,922 applications were received for homesteads, 166 for leases, 1,819 for free patents, and 683 for sales.

A homestead is a parcel of unoccupied and unappropriated nonmineral agricultural public land, not exceeding sixteen hectares, disposed of and granted to any citizen of the United States and the Philippine Islands who has resided upon the land for at least 2 years and cultivated it for the term of 5 years immediately succeeding the filing of application.

All unoccupied, unreserved, nonmineral, agricultural public land, are subject to lease upon annual payment of not less than 50 centavos nor more than 1 peso and 50 centavos per hectare, to any citizen of the United States and the Philippine Islands or to any association or corporation of persons for a period of not more than twenty-five years, each lease not to cover more than one thousand and twenty-four hectares for each such person, association or corporation. Upon the expiration of said period the lease may be renewed by the same lessee for another twenty-five years.

A parcel of unoccupied, unappropriated, and unreserved nonmineral public land, not exceeding sixteen hectares for an individual and one thousand and twenty-four hectares for a corporation or like association, may be sold at a public auction to the highest bidder who must be a citizen of the United States and the Philippine Islands.

Any native of the Philippine Islands who has continuously occupied and cultivated an unreserved, unappropriated agricultural public land since August 1, 1898, and who is now an occupant and cultivator of the same, is entitled to have a patent issued to him without compensation for such tract of land, not exceeding sixteen hectares.

TABLE No. 34.—Area of land cultivated with principal crops and average yield per hectare.

Staple crops.											
Abaca.		Coconuts.		Rice.		Sugar cane.		Tobacco.		Total.	
Area.	Aver- age yield per hec- tare.	Area.	Aver- age yield per hec- tare.	Area.	Aver- age yield per hec- tare.	Area.	Aver- age yield per hec- tare.	Area.	Aver- age yield per hec- tare.	Area.	Aver- age yield per hec- tare. <sup>a</sup>
<i>Hectare.</i>	<i>Kilos.</i>	<i>Hectare.</i>	<i>Nuts.</i>	<i>Hectare.</i>	<i>Kilos.</i>	<i>Hectare.</i>	<i>Kilos.</i>	<i>Hectare.</i>	<i>Kilos.</i>	<i>Hectare.</i>	<i>Kilos.</i>
475, 136	355	164, 193	5, 713	1, 192, 141	442	83, 168	1, 835	53, 626	525	1, 988, 264	789
404, 160	425	208, 421	4, 638	1, 043, 757	551	120, 313	2, 027	69, 015	370	1, 845, 665	843
432, 804	368	230, 682	4, 514	1, 078, 891	302	164, 261	1, 475	57, 041	519	1, 963, 679	666
368, 211	382	223, 212	3, 501	1, 141, 242	515	176, 118	1, 654	68, 991	688	1, 977, 774	810
437, 470	315	245, 952	2, 404	1, 244, 937	438	169, 436	2, 045	60, 890	767	2, 158, 685	891
457, 565	338	264, 148	3, 278	1, 130, 713	378	173, 092	2, 081	53, 342	718	2, 079, 160	879
446, 763	342	275, 769	2, 666	1, 140, 829	439	179, 761	1, 948	58, 913	698	2, 155, 589	857
488, 100	329	301, 220	2, 923	1, 225, 692	554	185, 931	1, 949	61, 776	792	2, 263, 119	906
1910	1911	1912	1913	1914	1915	1916	1917				

<sup>a</sup> Coconuts not included.

TABLE No. 34.—Area of land cultivated with principal crops and average yield per hectare—Continued.

Year ending June 30—	Minor crops.										Grand tota .	
	Cacao.		Coffee.		Corn.		Maguey.		Total.			
	Area.	Aver- age yield per hec- tare.	Area.	Aver- age yield per hec- tare.	Area.	Aver- age yield per hec- tare.	Area.	Aver- age yield per hec- tare.	Area. b	Aver- age yield per hec- tare. b		
	Hectare.	Kilos. (c) (c)	Hectare. (c) (c)	Kilos. (c) (c)	Hectare. (c) (c)	Kilos. (c) (c)	Hectare. (c) (c)	Kilos. (c) (c)	Hectare.	Kilos.		
1910.												
1911.												
1912.												
1913.												
1914.												
1915.												
1916.												
1917.												

a Coconuts not included.

b Cacao, coffee, and maguey excluded in 1910 and 1911.

c Data not available.

In 1917 the average values of the staple crops produced per hectare were as follows: Hemp, \$129.95; coconuts, \$105.23; rice, \$65.93; sugar, \$208.54; and tobacco, \$175.82.

With the exception of maguey which is exported, all the minor crops are consumed locally.

TABLE 35.—Quantity and value of production of principal crops.

[Source: Bureau of Agriculture.]

Year ending June 30—	Staple crops.									
	Abaca.		Coconuts.		Rice.		Sugar cane.		Tobacco.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Kilos.		Nuts.		Kilos.		Kilos.		Kilos.	
1910.....	168,452,144	\$26,952,343	937,927,927	\$38,941,626	528,054,408	\$60,620,646	152,639,327	\$15,263,933	28,006,778	\$7,561,830
1911.....	171,879,598	27,500,736	965,155,699	26,261,273	574,842,688	65,991,941	243,924,574	24,392,457	25,518,132	6,889,896
1912.....	169,473,376	28,706,208	965,155,699	26,261,273	574,842,688	65,991,941	243,924,574	24,392,457	25,518,132	6,889,896
1913.....	140,520,332	32,319,676	1,041,151,904	36,326,543	525,429,092	42,305,782	242,334,659	26,428,626	23,583,169	7,987,436
1914.....	137,635,563	29,968,009	781,585,504	30,535,664	537,972,692	61,737,122	291,386,825	25,698,450	46,060,390	12,436,305
1915.....	154,192,492	30,420,742	591,266,399	24,651,764	545,683,636	57,261,760	346,429,556	28,631,545	46,731,463	7,109,367
1916.....	152,756,278	42,767,339	865,815,826	24,461,884	427,643,784	49,207,978	360,176,309	33,212,488	38,302,964	5,684,679
1917.....	160,953,355	63,598,136	735,275,751	24,430,955	501,092,736	55,923,821	350,281,946	34,136,134	41,139,174	7,259,169
			880,588,806	31,975,495	678,641,208	81,377,812	362,338,084	38,704,708	43,928,621	10,883,523

Year ending June 30—	Minor crops.					
	Cacao.		Coffee.		Corn.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Kilos.		Kilos.		Kilos.	
1910.....	74,237	\$66,813	85,948	\$30,191,090	392,484,164	\$11,184,280
1911.....	133,386	120,047	113,031	\$68,758	145,395,666	11,184,280
1912.....	565,802	354,057	626,408	90,425	213,472,645	16,497,896
1913.....	625,611	398,991	694,864	302,771	253,851,359	15,231,082
1914.....	558,357	345,059	752,196	342,163	366,569,673	15,873,804
1915.....	537,335	338,500	594,620	361,754	404,138,861	16,067,658
1916.....				281,590	387,091,282	13,389,722
1917.....					369,454,047	17,639,800

\* Data not available.

TABLE No. 36.—*Consumption of rice in the Philippine Islands from 1902 to 1918.*

[Sources: Reports of (1) Bureau of Customs and (2) Bureau of Agriculture.]

Year ending June 30—	Import. (1)	Production. (2)	Exports. (1)	Consumption.	
				Total.	Per capita.
	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>
1902 <sup>a</sup> .....	216,403,000	321,038,032	-----	537,441,032	70.4
1910 .....	184,620,000	528,054,408	-----	712,674,408	82.2
1911 .....	203,083,000	574,842,688	-----	777,925,688	88.1
1912 .....	260,249,653	325,429,092	5,748	585,672,997	65.1
1913 .....	179,204,906	685,968,024	1,785	865,171,145	94.4
1914 .....	81,788,027	636,630,792	35,729	718,383,090	77.0
1915 .....	175,541,102	498,917,735	17,142	674,441,695	70.1
1916 .....	183,016,248	584,608,193	33,370	767,591,071	79.4
1917 .....	179,912,493	791,748,073	221,453	971,439,113	98.7
1918 .....	159,130,511	963,152,140	47,542	1,122,235,109	112.1

<sup>a</sup> Production is taken from Census of 1903.



TABLE NO. 37.—*Rice production and consumption by provinces from July 1, 1917 to June 30, 1918.*

[Source: Bureau of Agriculture.<sup>1</sup>]

Province.	Production. <sup>1</sup>	Estimated consumption.	Surplus.	Shortage.
	<i>Cavans.</i>	<i>Cavans.</i>	<i>Cavans.</i>	<i>Cavans.</i>
Abra .....	138, 142	133, 870	4, 272	.....
Albay .....	298, 679	600, 130	.....	301, 451
Ambos Camarines .....	366, 608	601, 885	.....	235, 277
Antique .....	208, 016	328, 400	.....	120, 384
Bataan .....	133, 768	105, 300	28, 468	.....
Batanes .....	141	17, 860	.....	17, 719
Batangas .....	323, 003	588, 805	.....	266, 802
Bohol .....	350, 588	632, 500	.....	281, 912
Bulacan .....	781, 514	516, 340	265, 174	.....
Cagayan .....	321, 757	395, 265	.....	73, 508
Capiz .....	653, 048	589, 390	63, 658	.....
Cavite .....	414, 471	323, 485	90, 986	.....
Cebu .....	51, 728	1, 495, 320	.....	1, 443, 592
Ilocos Norte .....	635, 798	380, 935	254, 863	.....
Ilocos Sur .....	265, 206	351, 000	.....	85, 794
Iloilo .....	1, 285, 063	934, 440	350, 623	.....
Isabela .....	16, 876	202, 840	.....	185, 964
Laguna .....	272, 042	360, 305	.....	88, 263
La Union .....	492, 187	304, 960	187, 227	.....
Leyte .....	475, 198	982, 860	.....	507, 662
Manila, city of .....	.....	546, 895	.....	546, 895
Mindanao and Sulu:				
Agusan .....	9, 309	122, 615	.....	113, 306
Bukidnon .....	.....	119, 455	.....	119, 455
Cotabato .....	8, 257	200, 595	.....	192, 338
Davao .....	20, 731	225, 790	.....	205, 054
Lanao .....	16, 283	163, 510	.....	147, 227
Sulu .....	175	227, 080	.....	226, 905
Zamboanga .....	42, 623	256, 505	.....	213, 882
Mindoro .....	102, 109	131, 000	.....	28, 891
Misamis .....	98, 309	363, 850	.....	265, 541
Mountain .....	250, 593	795, 735	.....	545, 142
Nueva Ecija .....	2, 267, 632	345, 150	1, 922, 482	.....
Nueva Vizcaya .....	97, 058	71, 215	25, 843	.....
Occidental Negros .....	413, 726	850, 650	.....	436, 924
Oriental Negros .....	56, 565	544, 750	.....	488, 185
Palawan .....	13, 797	133, 790	.....	119, 993
Pampanga .....	772, 119	554, 775	217, 344	.....
Pangasinan .....	2, 585, 344	1, 099, 020	1, 486, 324	.....
Rizal .....	342, 315	370, 830	.....	28, 515
Romblon .....	63, 525	135, 800	.....	72, 275
Samar .....	140, 069	668, 070	.....	528, 001
Sorsogon .....	75, 610	412, 990	.....	337, 380
Surigao .....	189, 664	241, 645	.....	51, 981
Tarlac .....	1, 019, 161	344, 565	674, 596	.....
Tayabas .....	360, 649	521, 860	.....	161, 211
Zambales .....	321, 011	227, 255	93, 756	.....
Total .....	16, 750, 472	19, 521, 285	5, 665, 616	8, 436, 429
Net shortage for the Philippine Islands in 1918 .....	.....	.....	.....	2, 770, 813

NOTE.—1 cavan is equivalent to 57½ kilos.

TABLE No. 38.—*Rice production by provinces from 1910 to 1918.*

[Source: Bureau of Agriculture.]

Province.	Year ending June 30—									
	1910	1911	1912	1913	1914	1915	1916	1917	1918 <sup>a</sup>	
1. Abra	Cavan. (b) 3, 117	Cavan. (b) 9, 225	Cavan. (b) 4, 526	Cavan. (b) 13, 099	Cavan. (b) 23, 122	Cavan. (b) 207, 509	Cavan. (b) 182, 160	Cavan. (b) 131, 068	Cavan. (b) 138, 142	
2. Agusan	101, 979	46, 237	140, 370	254, 818	291, 314	270, 509	270, 509	280, 927	298, 679	
3. Albay	166, 320	331, 662	68, 972	395, 873	403, 885	230, 792	170, 872	261, 077	366, 608	
4. Ambos Camarines	166, 756	182, 339	283, 611	179, 670	357, 535	297, 202	217, 902	223, 485	208, 016	
5. Antique	73, 087	129, 780	88, 725	308, 662	90, 691	88, 470	96, 981	107, 070	133, 768	
6. Batan		52	19	221	314	248	221	242	141	
7. Batanes	128, 543	89, 737	67, 545	324, 966	239, 421	179, 848	227, 924	274, 256	323, 003	
8. Batangas	193, 686	187, 439	136, 561	79, 156	173, 477	100, 335	153, 709	270, 466	350, 588	
9. Bohol	603, 674	570, 419	112, 382	817, 729	648, 929	496, 555	602, 688	756, 835	781, 514	
10. Bulacan	146, 983	126, 510	160, 180	212, 275	192, 640	206, 231	212, 069	236, 324	321, 757	
11. Cavayen	439, 829	497, 749	455, 734	419, 698	650, 284	585, 917	505, 069	678, 811	663, 048	
12. Capiz	84, 911	176, 881	71, 581	240, 663	156, 674	159, 561	200, 826	401, 393	414, 471	
13. Cavite	40, 076	24, 973	29, 735	21, 583	23, 691	18, 269	36, 286	43, 797	51, 728	
14. Cebu	317, 832	672, 966	297, 996	591, 276	272, 223	396, 402	400, 804	610, 382	635, 798	
15. Ilocos Norte	280, 334	380, 400	173, 911	231, 321	272, 767	328, 155	325, 806	244, 277	265, 206	
16. Ilocos Sur	288, 071	404, 838	320, 221	690, 923	898, 972	417, 263	781, 479	1, 042, 344	1, 285, 063	
17. Iloilo	19, 163	6, 744	21, 225	10, 784	19, 301	12, 575	14, 337	15, 330	16, 876	
18. Isabela	112, 669	140, 916	206, 069	187, 159	218, 030	172, 943	187, 518	251, 667	272, 042	
19. Laguna	327, 198	298, 534	121, 923	253, 809	232, 074	183, 886	284, 111	392, 492	492, 187	
20. La Union	214, 969	227, 857	146, 619	239, 364	404, 710	317, 480	323, 542	329, 241	475, 198	
21. Leyte										
22. Manila, city of										
23. Mindanao and Sulu:										
Agusan	(d)	(d)	(d)	(d)	140, 509	106, 481	104, 579	1, 259	8, 257	
Bukidnon	(e)	(e)	(e)	(e)				9, 050	20, 736	
Cotabato	(e)	(e)	(e)	(e)				50, 966	16, 283	
Davao	(e)	(e)	(e)	(e)				29, 691	175	
Lanao	(e)	(e)	(e)	(e)				43, 440	42, 623	
Sulu	(e)	(e)	(e)	(e)				83, 561	102, 109	
Zamboanga	(e)	(e)	(e)	(e)				39, 476	98, 309	
24. Mindoro	20, 413	24, 914	27, 421	75, 031	64, 567	42, 720	101, 550	(c)	(c)	
25. Misamis	33, 783	14, 767	60, 201	68, 637	44, 996	22, 605	43, 836	1, 812, 676	2, 267, 632	
26. Moro	52, 632	88, 609	32, 598	58, 768	(c)		(c)	71, 282	97, 058	
27. Mountain	155, 541	133, 999	70, 242	73, 174	141, 117	110, 552	121, 018	381, 942	413, 725	
28. Nueva Ecija	1, 048, 765	1, 057, 844	392, 533	1, 714, 252	1, 183, 346	899, 919	1, 076, 042	32, 277	56, 565	
29. Nueva Vizcaya	46, 354	35, 042	39, 116	79, 123	69, 135	56, 477	69, 360	54, 493	13, 797	
30. Occidental Negros	302, 305	125, 957	197, 713	222, 789	389, 672	229, 085	375, 783			
31. Oriental Negros	33, 739	16, 124	11, 010	9, 950	41, 203	28, 776	28, 738			
32. Palawan	28, 482	207, 694	56, 921	30, 309	52, 690	54, 882	54, 000			

33. Pampanga.....	514,668	527,732	201,986	790,966	611,665	447,821	467,783	692,535	772,119
34. Pangasinan.....	1,531,133	1,623,649	1,018,541	1,810,162	1,196,971	1,002,186	1,278,671	1,831,845	2,586,344
35. Rizal.....	160,672	299,619	23,359	301,395	250,043	156,701	268,824	316,940	342,315
36. Romblon.....	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	63,525
37. Samar.....	152,376	110,144	39,192	84,523	79,824	75,514	96,354	138,518	140,069
38. Sorsogon.....	73,625	69,498	26,626	59,581	68,163	65,305	86,040	110,611	75,610
39. Surigao.....	87,321	58,048	107,616	93,296	67,612	55,924	85,305	129,415	189,664
40. Tarlac.....	821,840	717,111	227,395	782,198	735,725	571,916	614,389	645,100	1,019,161
41. Tayabas.....	251,616	225,988	79,908	135,682	186,496	202,395	191,663	278,777	360,649
42. Zambales.....	156,823	154,297	140,281	282,001	271,473	207,916	179,917	256,664	321,011
Total.....	9,181,805	9,997,264	5,659,564	11,929,887	11,071,847	8,676,886	10,167,106	13,769,541	16,750,472

<sup>a</sup> Estimated.

<sup>b</sup> See Ilocos Sur.

<sup>c</sup> See Mindanao and Sulu.

<sup>d</sup> Subprovince of Agusan until 1914.

<sup>e</sup> See Moro.

<sup>f</sup> See Capiz.

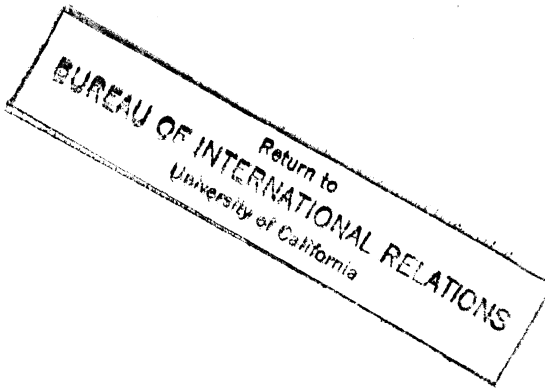






TABLE No. 40.—*Sugar production by provinces from 1910 to 1917.*  
 [Source: Bureau of Agriculture.]

Province.	Year ending June 30—							
	1910	1911	1912	1913	1914	1915	1916	1917
	Kilo. (a)	Kilo. (a)	Kilo. (a)	Kilo. (a)	Kilo. (a) (b)	Kilo. (a) (b)	Kilo. (a) (b)	Kilo. (a) (b)
1. Abra.....	72,484	3,605					132,445	18,830 (b)
2. Agusan.....		157,999						29,286
3. Albay.....	194,873	331,493	20,212	300	4,404,640	4,581,682	4,706,417	4,368,233
4. Ambos Camarines.....	3,364,015	4,232,943	5,421,965	6,597,605	531,204	964,611	1,137,082	1,232,996
5. Antique.....	473,806	396,957	361,942	633,310				
6. Batan.....								
7. Batanes.....								
8. Batangas.....	12,077,903	15,194,358	28,032,139	20,534,268	22,006,335	22,497,292	22,174,371	30,422,222
9. Bohol.....	122,768	303,537	480,295	295,487	208,959	568,173	763,851	1,007,300
10. Bulacan.....	3,443,457	5,401,297	1,382,569	5,731,800	7,417,812	8,165,145	7,287,917	8,684,217
11. Cagayan.....	136,241	24,604						
12. Capiz.....	425,609	1,069,368	2,539,085	2,228,456	5,791,582	7,065,826	7,697,828	5,519,787
13. Cavite.....	1,575,558	2,940,493	1,512,216	2,743,296	2,774,935	3,426,089	2,889,646	4,088,101
14. Cebu.....	2,087,732	4,836,981	8,103,620	6,027,951	9,912,686	9,065,856	12,339,318	11,218,228
15. Ilocos Norte.....	2,621,170	4,117,891	3,131,648	5,082,216	5,693,866	1,080	7,114,575	91,006
16. Ilocos Sur.....	6,395,887	8,430,339	3,131,648	5,082,216	5,693,866	6,271,780	7,911,141	7,911,141
17. Iloilo.....	7,873,673	11,574,434	21,451,096	30,885,789	34,354,667	35,155,894	32,480,252	29,960,823
18. Isabela.....	30,043							
19. Laguna.....	1,510,410	1,894,274	2,077,303	2,094,709	4,461,851	9,170,487	9,785,700	10,091,500
20. La Union.....	1,577,076	1,898,639	2,378,682	431,262	2,685,741	2,116,580	2,208,588	2,519,456
21. Leyte.....	686,516	1,094,731	2,477,475	637,490	1,599,478	2,317,800	4,129,912	4,757,695
22. Manila, city of.....								
23. Mindanao and Sulu.....								
Agusan.....					63,720	405	702	1,000
Bukidnon.....								
Cotabato.....								
Davao.....								
Lanao.....								
Sulu.....								
Zamboanga.....								
24. Mindoro.....	11,195	12,903	12,213	53,758	1,154,444	1,618,314	3,515,360	4,350
25. Misamis.....	45,920	47,817	11,085		123,990	41,500	45,500	3,494,068
26. Moro.....	102,465	288,167	30,200	493,340	(b)	(b)	(b)	58,953
27. Mountain.....	143,831	133,964	38,472	25,808	62,187	53,160	43,520	168,384
28. Nueva Ecija.....	636,978	1,040,968	1,094,667	1,391,411	3,456,147	2,966,538	3,018,614	3,019,713
29. Nueva Vizcaya.....	39,025	118,720						7,396
30. Occidental Negros.....	61,556,860	94,413,401	105,518,737	112,098,461	148,068,755	150,300,918	150,707,537	145,598,997
31. Oriental Negros.....	3,052,825	4,370,385	8,673,904	8,573,395	12,133,258	10,212,623	12,514,435	7,278,406
32. Palawan.....	3,795	3,795		1,391				

33. Pangasinan	28,732,198	63,572,765	36,784,293	58,810,286	62,725,878	52,443,666	61,538,041
34. Pangasinan	2,235,129	4,595,935	1,699,446	3,281,686	2,414,255	1,475,091	2,930,900
35. Rizal	1,919,321	3,634,155	1,428,722	1,443,661	1,213,357	1,627,149	2,350,920
36. Samar	545,342	308,470	8,709	33,207	110,242	22,423	49,400
37. Sorsogon	461,219	738,697	9,903				8,130
38. Surigao	26,881	121,440	15,569,097	21,102,342	12,493,464	9,710,852	13,376,576
39. Tarlac	7,324,983	5,129,891	10,047	118,305	228	270,900	276,770
40. Tayabas	958,111	1,157,538	74,918	55,835	44,036	37,663	194,600
41. Zambales	170,269	331,620					
Total	152,639,327	243,924,574	242,334,659	291,386,825	346,429,556	350,231,946	362,338,084
Per cent of increase or decrease		(60 per cent)	(1 per cent)	20 per cent	19 per cent	(2 per cent)	3 per cent
Average price per kilo	P0.10	P0.10	P0.10	P0.08	P0.08	P0.09	P0.10
Total value	P15,263,933	P24,392,457	P24,233,466	P23,310,946	P26,035,568	P31,233,764	P35,525,049

<sup>a</sup> See Ilocos Sur.

<sup>b</sup> See Department of Mindanao and Sulu.

<sup>c</sup> Subprovince of Agusan until 1914.

<sup>d</sup> See Moro Province.

NOTE.—Figures in parentheses indicate decreases.

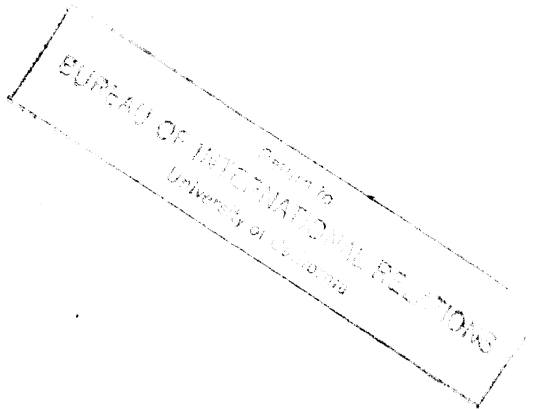


TABLE No. 41.—*Copra production by provinces from 1910 to 1917.*  
[Source: Bureau of Agriculture.]

Province.	Year ending June 30—							
	1910	1911	1912	1913	1914	1915	1916	1917
1. Abra.....	Kilo. (a)	Kilo. (a)	Kilo. (a)	Kilo. (a)	Kilo. (a)	Kilo. (a)	Kilo. (a)	Kilo. (b)
2. Agusan.....	82,068	154,892	128,945	321,792	9,847,229	13,440,927	10,103,430	15,537,139
3. Albay.....	927,442	7,935,697	9,807,466	8,400,546	4,519,415	12,397,706	8,364,590	4,256,454
4. Ambos Camarines.....	4,259,302	4,438,525	7,319,307	4,221,758	99,756	173,989	120,030	300,077
5. Antique.....	260,186	81,378	420,117	59,908				
6. Batanga.....								
7. Batanes.....	141,417	54,699	606,109	453,031	3,785	5,328	4,567	3,807
8. Batangas.....	7,084,129	7,746,424	8,115,412	3,049,551	551,304	730,552	886,247	676,097
9. Bohol.....					4,354,341	8,162,892	5,452,926	8,360,569
10. Bulacan.....								
11. Cagayan.....	5,838,229	7,139,616	9,956,853	6,007,883	4,702,088	5,062,990	4,823,530	10,528,594
12. Capiz.....	33,294	14,309	84,168	146,225	115,500	82,605	106,775	81,750
13. Cavite.....	13,870,048	9,980,980	10,900,667	5,145,647	5,118,421	8,659,254	7,970,594	7,970,594
14. Cebu.....								
15. Ilocos Norte.....								
16. Ilocos Sur.....	1,073,348	1,450,943	2,259,260	567,357	668,924	772	7,051	25,000
17. Iloilo.....	14,974,362	12,872,317	15,728,799	9,558,478	9,098,455	22,859,388	15,710,508	18,204,849
18. Isabela.....	68,370	92,291	487,885	143,670	190,072	95,411	110,234	152,071
19. Laguna.....	10,238,079	7,832,550	10,476,162	4,973,007	4,215,066	4,981,319	4,845,983	7,081,429
20. La Union.....								
21. Leyte.....								
22. Manila, city of.....								
23. Mindanao and Sulu.....								
Agusan.....	(c)	(c)	(c)	(c)	14,719,413	15,408,078	14,194,902	1,515,131
Bukidnon.....	(d)	(d)	(d)	(d)				
Cotabato.....	(d)	(d)	(d)	(d)				136,597
Davao.....	(d)	(d)	(d)	(d)				492,671
Lanao.....	(d)	(d)	(d)	(d)				179,089
Sulu.....	(d)	(d)	(d)	(d)				9,033
Zamboanga.....	(d)	(d)	(d)	(d)				23,855,918
24. Mindoro.....	58,281	154,628	1,921,464	226,420	389,116	445,187	645,560	659,453
25. Misamis.....	1,807,270	4,635,356	10,746,124	6,298,603	6,009,010	10,894,672	10,895,581	16,577,459
26. Moro.....	14,223,175	3,335,416	13,194,724	14,773,560	(b)	(b)	(b)	(b)
27. Mountain.....			5,440	13,795				3,828
28. Nueva Ecija.....								
29. Nueva Vizcaya.....								
30. Occidental Negros.....	1,367,578	1,353,226	2,233,206	1,454,810	872,012	1,608,057	1,471,660	1,929,272
31. Oriental Negros.....	2,135,925	2,639,030	3,949,814	2,572,534	2,774,667	4,382,047	4,386,289	5,498,665
32. Palawan.....	238,153	204,936	1,338,384	1,325,071	576,065	840,296	392,329	637,445



33. Pampanga	2, 313, 503	3, 007, 828	3, 905, 690	1, 096, 149	1, 623, 478	2, 372, 377	1, 942, 598	1, 713, 739
34. Pangasinan								
35. Rizal	3, 269, 026	10, 219, 765	16, 072, 013	13, 063, 125	7, 058, 506	9, 570, 181	8, 822, 611	10, 416, 134
36. Samar	6, 056, 404	5, 364, 947	8, 906, 650	3, 847, 956	3, 695, 311	5, 969, 258	5, 596, 747	6, 186, 258
37. Sorsogon	1, 727, 821	1, 603, 456	1, 181, 135	3, 379, 467	2, 815, 697	4, 033, 092	2, 242, 354	2, 597, 828
38. Surigao								
39. Tarlac	32, 918, 330	25, 921, 837	34, 255, 316	25, 416, 236	23, 270, 459	38, 131, 758	31, 341, 923	39, 630, 420
40. Taybas	70, 082	33, 063	34, 725	183, 239	94, 821	91, 803	77, 454	91, 815
41. Zambales								
Total	125, 140, 822	118, 323, 114	174, 035, 835	116, 699, 818	107, 382, 931	171, 573, 963	141, 764, 193	186, 510, 962
Per cent of increase or decrease								
Average price per kilo	P0. 15	(5 per cent)	47 per cent	(33 per cent)	(8 per cent)	59 per cent	(17 per cent)	31 per cent
Total value	P18, 771, 123	P0. 15	P0. 17	P0. 18	P0. 16	P0. 11	P0. 13	P0. 14
		P17, 748, 467	P29, 586, 092	P21, 005, 967	P17, 385, 088	P18, 377, 184	P19, 016, 096	P26, 553, 153

<sup>a</sup> See Ilocos Sur.<sup>b</sup> See Mindanao and Sulu.<sup>c</sup> Subprovince of Agusan until 1914.<sup>d</sup> See Moro.

NOTE.—Figures in parentheses indicate decreases.

TABLE No. 42.—Coconut oil production from 1910 to 1917.

[Source: Bureau of Agriculture.]

Province.	Year ending June 30—							
	1910	1911	1912	1913	1914	1915	1916	1917
	Liter. (a)	Liter. (a)	Liter. (a)	Liter. (a)	Liter. (a) (b)	Liter. (a) (b)	Liter. (a) (b)	Liter. (a) (b)
1. Abra			367	150				815
2. Agusan			189,882	528,725	645,133	590,912	557,585	464,743
3. Albay	1,573,841	133,265	172,185	160,516	205,178	274,975	210,943	67,910
4. Ambos Camarines	120,319	172,185	9,803	1,983	1,363	2,478	8,993	5,626
5. Antique	18,884	9,195						
6. Bataan			985	909	2,434	2,415	2,875	1,738
7. Batanes								
8. Batangas			57,824	73,732	66,391	99,712	91,104	73,467
9. Bohol	342,228	335,659			429	45,208	104	1,126
10. Bulacan			778	1,450	84,865	96,579	144,554	58,111
11. Cavite	49,068	296,875	171,804	49,073				
12. Capiz					106,704	216,285	251,309	250,300
13. Cebu	954,025	686,706	95,623	118,628	635	530		2,533
14. Ilocos Norte	21,732	2,266	2,177	2,177	152	2,892	2,441	152
15. Ilocos Sur	1,838	820	1,257	1,257	23,286	25,743	22,758	29,599
16. Iloilo	43,368	36,950	31,541	24,365	1,036	1,776	975	833
17. Isabela				150	1,859,824	1,121,930	802,532	1,050,265
18. Laguna	2,169,580	4,230,492	3,305,165	2,550,317	8,849	9,692	17,900	17,818
19. La Union	15,194	7,924	4,436	11,126	256,071	318,286	261,188	135,350
20. Leyte	138,951	216,073	223,547	606,562				
21. Manila, city of					2,827	11,247	13,354	173
22. Mindanao and Sulu								
Agusan	(c)	(c)	(c)	(c)				
Bukidnon	(d)	(d)	(d)	(d)				
Cotabato	(d)	(d)	(d)	(d)				390
Davao	(d)	(d)	(d)	(d)				5,800
Lanao	(d)	(d)	(d)	(d)				26,700
Sulu	(d)	(d)	(d)	(d)				
Zamboanga	(d)	(d)	(d)	(d)				1,121
24. Mindoro	17,141	1,185	1,999	1,108	520	635	385	474
25. Misamis	71,880	3,270	5,166	26,335	13,938	14,799	12,351	17,753
26. Moro	350,108	1,138	105,600	6,268	(b)	(b)	(b)	(b)
27. Mountain			386	6,426	1,463	639	457	1,542
28. Nueva Ecija			7	91				842
29. Nueva Vizcaya			235	885	1,530	1,904	491	335
30. Occidental Negros	31,877	31,877	44,295	30,342	6,234	2,982	1,640	6,873
31. Oriental Negros	5,274	5,274	567	3,384	2,216	6,462	2,195	2,872
32. Palawan	12,923		1,103	17,321	1,834	1,916	1,675	2,720

33. Pampanga	199,803	85,308	75,217	110,852	153,646	120,557	122,285
34. Pangasinan	130,854	125,263	79,601	7,027	19,278	10,161	9,526
35. Rizal	68,252	59,606	14,149	20,101	34,716	23,134	14,702
36. Samar	3,970	1,114	11,202	50,690	5,904	3,330	2,108
37. Sorsogon	647	1,452		415	690	1,061	2,331
38. Surigao	32,819	220,780	609,610	110,317	110,196	116,243	240,819
39. Tarlac	625,229		3,481	3,418	1,200	410	4,586
40. Tayabas							
41. Zambales							
Total	6,993,513	4,868,101	5,010,540	3,595,332	3,175,626	2,688,305	2,623,687
Per cent of increase or decrease	(6 per cent)	(26 per cent)	(3 per cent)	(28 per cent)	(14 per cent)	(15 per cent)	(2 per cent)
Average price per liter	P0.30	P0.30	P0.30	P0.34	P0.21	P0.27	P0.31
Total value	P2,098,064	P1,460,430	P1,503,162	P1,225,413	P662,491	P713,288	P831,810

<sup>a</sup> See Ilocos Sur.

<sup>b</sup> See Mindanao and Sulu.

<sup>c</sup> Subprovince of Agusan until 1914.

<sup>d</sup> See Moro.

NOTE.—Oil produced from copra not included. Figures in parentheses indicate decreases.

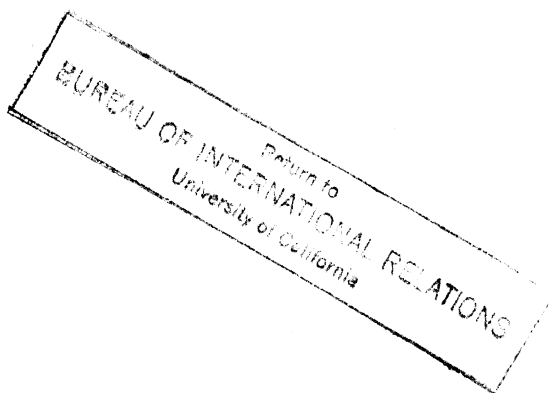


TABLE NO. 43.—*Tobacco production from 1910 to 1917.*

[Source: Bureau of Agriculture.]

Province.	Year ending June 30—							
	1910	1911	1912	1913	1914	1915	1916	1917
	Kilo. (a)	Kilo. (a)	Kilo. (a)	Kilo. (a)	Kilo. (a) (b)	Kilo. (a) (b)	Kilo. (a) (b)	Kilo. (a) (b)
1. Abra								Kilo. 240,588 (b)
2. Aguan					368			1,200
3. Albay								32,980
4. Ambos Camarines	27,830	19,964	7,654	32,800	36,302	46,819	38,254	
5. Antique			150					
6. Bataan								
7. Batanes		6,486	9,558	6,935	4,853	13,602	15,602	11,914
8. Batangas	32,246	70,978	9,558	41,268	30,428	25,719	47,563	49,107
9. Bohol	21,252	105,018	47,113	103,351	50,037	105,238	87,399	105,204
10. Bulacan	49,358	110,722	19,902	121,104	142,482	187,024	172,020	104,178
11. Cagayan	4,590,156	4,869,606	5,569,134	9,231,881	6,354,300	5,027,548	6,830,561	6,565,162
12. Capiz	323,978	58,512	32,644	281,786	397,531	325,898	184,066	183,204
13. Cavite	2,760	14,950	1,950	37,696	7,732	12,270	6,500	9,202
14. Cebu	4,734,918	3,753,048	2,038,246	4,497,302	3,813,972	3,381,032	3,816,403	3,680,099
15. Ilocos Norte	507,380	804,402	2,011,901	1,065,301	911,167	892,147	1,098,834	1,200,271
16. Ilocos Sur	237,774	359,122	566,440	650,647	865,328	730,723	516,442	314,708
17. Iloilo	628,452	353,050	334,707	1,508,476	1,129,295	952,796	464,186	637,357
18. Isabela	8,333,268	7,077,376	10,919,752	14,007,156	19,366,300	15,638,772	15,757,178	18,905,923
19. Laguna						800	1,200	
20. La Union	4,368,022	2,886,592	3,268,018	3,613,474	3,507,578	3,732,376	5,090,678	8,544,993
21. Leyte	346,978	661,158	499,313	482,985	1,096,964	1,199,806	603,417	850,246
22. Manila, City of								
23. Mindanao and Sulu								
Agusan							63,990	11,060
Bukidnon								
Cotabato								13,650
Davao								
Lanao								
Sulu								
Zamboanga								
24. Mindoro	44,022	21,344	32,705	67,500	48,706	41,972	41,544	56,650
25. Misamis	1,748	3,542	5,040	23,513	24,614	62,860	63,100	37,902
26. Moro	4,646	15,778	5,932	24,766	(b)	(b)	(b)	73,400
27. Mountain	26,128	251,114	29,663	92,352	92,769	151,417	130,858	199,306
28. Nueva Ecija	208,610	438,748	124,293	559,530	574,651	278,408	355,698	496,734
29. Nueva Vizcaya		86,894	35,360	70,446	111,756	56,900	33,849	159,233
30. Occidental Negros	838,626	627,486	239,813	820,236	984,858	606,598	866,740	887,982
31. Oriental Negros	362,480	272,872	189,892	832,413	879,524	1,008,011	1,287,011	505,192
32. Palawan	1,380	1,242	189,892	15,144	7,050	19,120	19,700	3,760

33. Pangasinan	7, 636	91, 310	7, 660	184	5, 152	17, 280	11, 040	21, 650
34. Pangasinan	2, 107, 030	2, 098, 106	3, 089, 076	7, 272, 139	5, 765, 156	3, 293, 310	3, 111, 301	4, 411, 698
35. Rizal		3, 634	1, 210	7, 690	2, 208	4, 095	4, 910	7, 579
36. Samar	58, 420	99, 958	225, 069	235, 911	230, 641	127, 160	117, 201	165, 975
37. Sorsogon	15, 272	35, 420	36, 300	142, 696	110, 955	131, 530	28, 101	97, 643
38. Surigao	24, 380	37, 444	23, 468	72, 854	45, 845	63, 062	37, 458	101, 136
39. Tarlac		65, 872	133, 534	70, 062	59, 282	135, 790	133, 239	155, 221
40. Tayabas	99, 544	162, 426	23, 230	65, 706	32, 926	41, 691	81, 080	67, 802
41. Zambales	2, 484	55, 958	10, 572	7, 994	5, 587	11, 389	22, 463	17, 372
Total	28, 006, 778	25, 518, 132	29, 583, 169	46, 060, 390	46, 731, 463	38, 302, 964	41, 139, 174	48, 928, 621
Per cent of increase or decrease		(9 per cent)	16 per cent	56 per cent	14 per cent	(18 per cent)	7 per cent	19 per cent
Average price per kilo	P0. 27	P0. 27	P0. 27	P0. 27	P0. 15	P0. 15	P0. 18	P0. 22
Total value	P7, 561, 830	P6, 889, 896	P7, 987, 456	P12, 436, 305	P7, 109, 367	P5, 684, 579	P7, 259, 169	P10, 883, 523

<sup>a</sup> See Ilocos Sur.

<sup>b</sup> See Mindanao and Sulu.

<sup>c</sup> Subprovince of Agusan until 1914.

<sup>d</sup> See Moro.

NOTE.—Figures in parentheses indicate decreases.

TABLE No. 44.—*Monthly average prices of important crops in the Manila market, 1918.*

[Source: Bureau of Agriculture.]

Article.	January.	February.	March.	April.	May.	June.	July.	August.
<b>Abaca:</b>								
For Japanese trade—	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>
Tagal 1, fiber AA	₱1.541	₱1.541	₱1.502	₱1.541	₱1.541	₱1.541	₱1.541	₱1.541
Tagal 2, fiber BB	1.383	1.351	1.344	1.383	1.383	1.383	1.383	1.383
Tagal 3, fiber CC	1.264	1.235	1.225	1.264	1.264	1.264	1.264	1.264
Tagal 4, fiber DD	1.106	1.075	1.066	1.107	1.107	1.107	1.107	1.107
For general trade—								
Extra prime, fiber A	.964	.965	.955	.972	.972	.905	.822	.81
Prime, fiber B	.949	.949	.935	.941	.941	.882	.806	.785
Superior current, fiber C	.933	.929	.91	.913	.913	.86	.791	.761
Good current, fiber D	.91	.901	.886	.889	.889	.84	.769	.741
Midway, fiber E	.873	.854	.853	.85	.85	.803	.753	.708
Streaky No 1, fiber S1	.788	.795	.801	.81	.81	.773	.743	.676
Streaky No 2, fiber S2	.746	.731	.737	.743	.743	.706	.696	.619
Streaky No 3, fiber S3	.686	.664	.649	.652	.652	.617	.609	.548
Current, fiber F	.855	.838	.815	.81	.81	.767	.743	.676
Seconds, fiber G	.595	.605	.628	.636	.636	.615	.617	.54
Brown, fiber H	.56	.553	.567	.597	.597	.573	.569	.498
Good fair, strips I	.792	.743	.733	.739	.739	.702	.68	.611
Fair, strips J	.613	.632	.629	.621	.621	.603	.601	.538
Medium, strips K	.521	.553	.53	.459	.459	.459	.459	.447
Coarse, strips L	.49	.522	.498	.427	.427	.427	.427	.427
Coarse brown, strips M	.399	.443	.409	.308	.308	.308	.308	.308
Daet coarse, strips DL	.316	.316	.285	.194	.194	.194	.194	.198
Daet coarse, brown, strips DM	.237	.237	.211	.134	.134	.134	.134	.134
<b>Maguay or Sisal:</b>								
Cebu—								
Maguay No. 1	.332	.34	.374	.403	.403	.403	.315	.293
Maguay No. 2	.324	.322	.328	.364	.345	.34	.25	.232
Maguay No. 3	.313	.277	.273	.285	.285	.285	.208	.182
Manila—								
Maguay No. 1			.387	.387	.387	.387	.387	.281
Maguay No. 2			.324	.324	.324	.324	.324	.248
Maguay No. 3			.269	.269	.269	.269	.269	.202
<b>Sugar:</b>								
Iloilo—								
Sugar No. 1	.096	.099	.095	.095	.092	.091	.091	.092
Sugar No. 2	.088	.091	.086	.087	.085	.083	.083	.085
Sugar No. 3	.077	.079	.082	.083	.079	.075	.075	.075
Sugar No. 4	.071	.072	.078	.079	.075	.071	.071	.072
Sugar No. 5	.067	.068	.074	.075	.071	.067	.067	.067
Manila—								
Sugar No. 1								.099
Sugar No. 2								.095
Sugar No. 3								.091
Sugar No. 4								.085
Sugar No. 5								
96° centrifugal sugar of (New York)	.264	.264	.264	.264	.264	.264	.264	.266
<b>Copra:</b>								
Sun dried (Cebu)	.164	.178	.193	.193	.202	.171	.166	.189
Fair merchantable Manila	.158	.17	.193	.206	.20	.178	.178	.188
Laguna	.151	.162	.181	.194	.188	.166	.166	.178
<b>Rice:</b>								
Saigon, second white	.146	.155	.161	.159	.163	.164	.168	.177
Native, second white, milled	.14	.154	.159	.158	.155	.158	.17	.178
Native, medium red grain, milled	.135	.15	.155	.155	.152	.153	.158	.169
Native, red grain			.148	.148	.147	.149	.153	.163
Native, hand cleaned		.145	.149	.148	.147	.147	.147	.147
Pangasinan, hand cleaned	.129	.143		.149				
Maiz (corn)	.102	.11	.136	.116	.129	.111	.117	.11
<b>Tobacco:</b>								
Isabela first	1.795	1.795	1.795	1.795	1.795	1.795	1.795	1.795
Isabela second	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28
Isabela third	.91	.91	.91	.91	.91	.91	.91	.91
Isabela fourth	.61	.61	.61	.61	.61	.61	.61	.61
Isabela fifth	.40	.40	.40	.40	.40	.40	.40	.40
Cagayan first	.93	.93	.93	.93	.93	.93	.93	.93
Cagayan second	.77	.77	.77	.77	.77	.77	.77	.77
Cagayan third	.57	.57	.57	.57	.57	.57	.57	.57
Cagayan fourth	.44	.44	.44	.44	.44	.44	.44	.44
Cagayan fifth	.33	.33	.33	.33	.33	.33	.33	.33
Pangasinan, first to third	.283	.283	.283	.283	.283	.283	.283	.283
Union, first to third	.435	.435	.435	.435	.435	.435	.435	.435
Union, fourth to sixth	.332	.332	.332	.332	.332	.332	.332	.332
Cebu, first to third	.239	.239	.239	.239	.239	.239	.239	.239
Ilocos Norte, first to third	.217	.217	.217	.217	.217	.217	.217	.217

\* Manila quotations are 50 centavos less than Iloilo.

NOTE.—(.....) indicates no stock in the market. The above averages are based on prices prevailing every Thursday of the month.

TABLE No. 45.—*Livestock in the Philippines.*

[Source: Bureau of Agriculture.]

Year.	Carabao.	Cattle.	Horse.	Hog.	Goat.	Sheep.
1910.....	756, 724	269, 963	142, 604	1, 681, 550	441, 455	94, 166
1911.....	863, 649	315, 495	151, 696	1, 703, 079	455, 291	93, 341
1912.....	956, 512	362, 230	170, 861	1, 888, 122	475, 794	98, 656
1913.....	1, 047, 164	418, 114	179, 089	2, 086, 736	528, 180	104, 147
1914.....	1, 147, 433	477, 736	215, 826	2, 285, 880	592, 042	118, 010
1915.....	1, 221, 866	534, 106	223, 195	2, 521, 143	644, 026	129, 470
1916.....	1, 228, 836	566, 199	203, 131	2, 734, 684	604, 332	130, 034
1917.....	1, 203, 760	557, 220	197, 663	(a)	(a)	(a)

a No data available.

TABLE No. 46.—*Livestock in the Philippines for the year ending December 31, 1917.*

[Source: Bureau of Agriculture.]

Province.	Carabao.	Cattle.	Horse and mule.
Abra.....	24, 593	11, 598	6, 958
Albay.....	18, 392	3, 384	3, 133
Ambos Camarines.....	23, 058	3, 466	407
Antique.....	22, 544	18, 668	556
Bataan.....	9, 409	770	395
Batanes.....	4	12, 906	739
Batangas.....	16, 842	92, 474	29, 853
Bohol.....	45, 442	20, 942	4, 227
Bulacan.....	43, 598	2, 536	4, 466
Cagayan.....	58, 408	3, 904	5, 850
Capiz.....	32, 894	6, 187	564
Cavite.....	15, 954	9, 641	9, 981
Cebu.....	47, 024	24, 720	13, 265
Ilocos Norte.....	58, 445	16, 043	11, 611
Ilocos Sur.....	45, 686	22, 736	4, 641
Iloilo.....	59, 142	36, 706	1, 511
Isabela.....	33, 603	3, 737	5, 469
Laguna.....	21, 658	7, 164	8, 906
La Union.....	34, 922	7, 274	2, 629
Leyte.....	40, 638	19, 215	4, 481
Mindanao and Sulu:			
Agusan.....	1, 917	498	248
Bukidnon.....	442	52	727
Cotobato.....	413	218	24
Davao.....	5, 390	14, 796	1, 174
Lanao.....	345	728	141
Sulu.....	351	1, 168	78
Zamboanga.....	9, 187	3, 086	1, 359
Mindoro.....	14, 864	28, 654	3, 337
Misamis.....	15, 525	3, 970	3, 854
Mountain.....	29, 124	26, 563	5, 068
Nueva Ecija.....	54, 863	5, 442	2, 090
Nueva Vizcaya.....	10, 606	3, 513	891
Occidental Negros.....	43, 597	17, 386	2, 003
Oriental Negros.....	19, 488	12, 381	8, 485
Palawan.....	6, 432	15, 845	231
Pampanga.....	39, 931	1, 488	3, 972
Pangasinan.....	112, 255	15, 676	8, 316
Rizal.....	19, 057	2, 900	4, 004
Romblon.....	9, 373	13, 147	2, 130
Samar.....	15, 639	4, 553	1, 490
Sorsogon.....	19, 273	18, 271	3, 859
Surigao.....	20, 452	980	4, 720
Tarlac.....	31, 083	1, 479	1, 161
Tayabas.....	44, 866	31, 621	15, 474
Zambales.....	27, 031	8, 734	3, 285
Total for Philippine Islands.....	1, 203, 760	557, 220	197, 663

The raising of livestock is an exceptionally profitable industry in the Philippines. There is a great demand for work animals to supply the rapidly growing agricultural and other activities of development. A recent shipment of cattle from Madras, India, cost ₱260 per head placed at Pandacan, Manila. Meat and leather products form an important part of the Islands' imports. On the other hand, the vast areas of grassy land which cover about 17 per cent of the area of the Philippine Islands will feed enough animals not only to supply the country's needs but also for exportation to other countries.

Return to  
BUREAU OF INTERNATIONAL RELATIONS  
University of California

TABLE NO. 47.—*Utilization of forest products from private and public forests.*

[Source: Bureaus of (1) Forestry and (2) Internal Revenue.]

Fiscal year.	Timber. <sup>1</sup>			Forest charges. <sup>2</sup>		
	First group. <sup>b</sup>	Lower group. <sup>c</sup>	Total.	First group.	Lower group.	Total. <sup>d</sup>
	<i>Cu. m.</i>	<i>Cu. m.</i>	<i>Cu. m.</i>			
1908.....	25,586	78,692	104,278	P55,111	P74,492	P129,603
1909.....	35,357	108,404	143,761	70,272	91,030	161,302
1910.....	31,962	121,656	153,618	76,165	99,818	175,983
1911.....	89,312	145,316	184,628	96,890	129,405	226,295
1912.....	52,091	172,856	224,947	121,306	145,000	266,306
1913.....	59,422	217,749	277,171	124,614	171,927	296,541
1913 <sup>a</sup> .....	23,751	77,752	101,503	122,317	157,345	279,662
1914.....	55,798	241,297	297,095	143,537	193,861	337,398
1915.....	52,512	226,483	278,995	128,309	183,985	312,244
1916.....	55,060	288,958	344,018	134,771	239,226	373,997
1917.....	51,431	318,700	270,131	132,760	250,323	383,083

<sup>a</sup> July 1 to December 31, 1913.<sup>b</sup> First group: Acle, Baticulin, Betis, Camagon, Ebony, Ipil, Lanete, Mancono, Molave, Narra, Tindalo, and Yacal.<sup>c</sup> Lower groups:

Second group: Alupag, Aranga, Banaba, Bansalaguin, Banuyo, Batitinan, Bolongeta, Calamansanay, Calantas, Dungan, Guijo, Macaasin, Malacadios, Mangachapuy, Palo Maria, Supa, Teak, and Tucan-calao.

Third group: Agoho, Amuguis, Anubing, Apitong, Batino, Bitanghol, Catmon, Calumpit, Dalinsi, Dita, Dungan-late, Malacmalac, Malapapaya, Malasantol, Mayapis, Nato, Palosapis, Panao, Sacat, Santol, Tamayuan, and Tanguile.

Fourth group: Includes all species not included in any of the other groups.

<sup>d</sup> Only timber cut from public forests pay forest charges.



TABLE NO. 48.—*Utilization of forest products from public and private forests.*

[Source: Annual Reports of the Director of Forestry.]

Fiscal year.	Minor forest product.													
	Char- coal.	Dyewood.	Tan bark.	Dye- bark.	Wood- oil.	Gumastic.	Gutta percha.	Fire- wood.	Rattan.	Diliman.	Stone.	Lime- stone.	Pitch.	Gogo.
	<i>cm.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Liter.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>cm.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>	<i>Kilo.</i>
1908	4,535	2,284,867	1,680,306	136,986	27,154	945,874	89,787	192,526	(c)	(d)			139,391	
1909	6,182	1,325,065	1,423,370	115,040	314,932	998,784	37,578	221,635	3,639,389	10,152			46,297	
1910	4,315	1,154,614	3,302,939	98,482	131,377	1,092,398	96,169	246,776	3,069,212		(e)		57,629	
1911	4,670	1,725,746	2,012,385	87,229	77,540	707,732	117,140	239,237	4,593,655		(e)		125,366	
1912	4,205	1,083,139	1,682,254	193,878	86,080	910,790	43,965	b 150,800	3,681,490			6,600	153,474	
1913	3,130	1,651,852	879,785	81,881	49,875	882,958	85,424	b 129,800	3,065,840				203,580	
1913 *	1,586	487,471	549,894	89,454	46,929	863,455	96,121	b 56,322	b 1,312,182	2,578			86,040	
1914	5,984	498,568	2,798,596	65,672	117,561	1,199,404	76,952	i 222,121	b 3,348,148	43,611	127,175		50,576	17,956
1915	1,462,837	1,921,305	96,516	147,574	1,478,787	27,291	276,592	b 2,736,363	b 2,736,363	96,128	104,721	95,536	56,241	55,308
1916	4,048	2,331,466	1,545,923	101,562	63,353	1,089,448	19,077	376,764	b 3,114,313	61,582	59,432	186,519	157,375	
1917	6,463	1,601,026	3,243,251	88,963	54,080	795,911	26,283	519,348	b 4,607,674	91,305	55,067	387,373	109,386	202,846

<sup>a</sup> July 1 to December 31, 1913; <sup>b</sup> excluding unsplit rattan; <sup>c</sup> unsplit rattan, 67,299,082 pieces; <sup>d</sup> 1,595,849 pieces; <sup>e</sup> 6,420 pieces; <sup>f</sup> limestone, 6,646 ollas; <sup>g</sup> 7,048 pieces; <sup>h</sup> excluding first-class firewood; 1912, 11,292,519 pieces; 1913, 11,044 pieces; 1913, <sup>a</sup> 5,087 pieces; <sup>1</sup> excluding 6,493,054 rajas.

Considerable activity is being given to the utilization of the forest products of the islands, but considering the magnitude of the resources, this activity is still insignificant. In the Philippines, forests are found in abundance such beautiful and hard timber as narra, ipil, molave, camagon, ebony and yacal, all of which are of high commercial value as they are valuable materials for permanent structures and the manufacture of furniture.

TABLE NO. 49.—*Domestic corporations incorporated from March 30, 1906 to June 30, 1918.*

Class.	Number.	Capital subscribed.	Capital stock.
<b>I. NATURAL RESOURCES</b> .....	<b>379</b>	<b>P85, 449, 008.00</b>	<b>P67, 969, 046.00</b>
1. Mining .....	109	21, 714, 279.00	39, 019, 900.00
2. Agriculture .....	228	11, 178, 279.00	21, 290, 146.00
3. Lumbering .....	31	2, 199, 350.00	6, 959, 000.00
4. Fishing .....	10	277, 120.00	620, 000.00
5. Others .....	1	80, 000.00	80, 000.00
<b>II. COMMERCE</b> .....	<b>324</b>	<b>37, 156, 032.00</b>	<b>72, 443, 050.00</b>
1. Wholesale and retail .....	143	10, 798, 880.00	26, 655, 530.00
2. Transportation .....	85	9, 744, 496.00	19, 272, 020.00
3. Banking and insurance .....	13	9, 400, 000.00	11, 250, 000.00
4. Import and export .....	31	5, 380, 475.00	9, 125, 000.00
5. Drug store .....	10	596, 400.00	2, 330, 000.00
6. Warehouse .....	9	413, 650.00	1, 690, 000.00
7. Commission and brokerage .....	10	169, 100.00	406, 000.00
8. Others .....	23	653, 031.00	1, 714, 500.00
<b>III. INDUSTRY</b> .....	<b>205</b>	<b>20, 055, 032.05</b>	<b>49, 502, 577.30</b>
1. Construction and repair .....	28	4, 368, 255.00	6, 687, 500.00
2. Distilleries and breweries .....	22	1, 173, 250.00	8, 257, 500.00
3. Electric light and power .....	14	2, 625, 290.00	6, 687, 500.00
4. Vegetable oil .....	17	1, 578, 300.00	5, 104, 500.00
5. Cigars and cigarettes .....	10	808, 832.75	1, 992, 000.00
6. Printing and publishing .....	32	479, 661.00	1, 352, 210.00
7. Shoes and other leather goods .....	3	451, 606.00	902, 000.00
8. Ice and cold storage .....	10	379, 010.00	611, 000.00
9. Rice mills .....	8	254, 767.00	375, 867.00
10. Others .....	61	7, 936, 060.00	13, 542, 000.00
<b>IV. MISCELLANEOUS</b> .....	<b>478</b>	<b>2, 938, 032.44</b>	<b>17, 246, 494.44</b>
1. Recreation .....	49	775, 214.00	2, 083, 200.00
2. Hotels and restaurants .....	10	527, 045.00	1, 262, 600.00
3. Educational and religious .....	259	232, 965.00	487, 000.00
4. Clubs and societies .....	134	8, 980.44	38, 194.44
5. Others .....	26	1, 398, 828.00	13, 375, 500.00
<b>Total</b> .....	<b>1, 386</b>	<b>95, 603, 104.00</b>	<b>207, 161, 167.74</b>

NOTE.—Twelve corporations reported to have been dissolved are not included.

TABLE No. 50.—Domestic corporations classified according to nature of business and year of incorporation.

73

Year.	Natural resources.		Commerce.		Industry.		Miscellaneous.		Total.	
	No.	Capital stock.	No.	Capital stock.	No.	Capital stock.	No.	Capital stock.	No.	Capital stock.
1906*	13	\$4,360,000.00	5	\$890,000.00	6	\$217,500.00	8	\$550,000.00	32	\$6,017,500.00
1907	15	1,434,100.00	5	255,000.00	8	340,500.00	31	316,944.44	59	2,347,544.00
1908	10	1,825,000.00	13	854,500.00	10	1,122,000.00	13	501,000.00	46	4,302,500.00
1909	30	9,248,700.00	17	3,309,000.00	7	3,460,000.00	20	465,000.00	74	16,482,700.00
1910	34	9,444,100.00	18	4,181,000.00	18	2,165,560.00	20	10,419,300.00	110	26,209,960.00
1911	29	6,409,000.00	32	13,588,800.00	15	8,797,100.00	35	1,135,500.00	111	29,930,400.00
1912	23	4,027,000.00	35	5,377,500.00	12	4,407,000.00	39	1,078,000.00	109	14,889,500.00
1913	34	10,185,000.00	37	4,712,500.00	23	7,770,500.00	40	733,500.00	134	23,401,500.00
1914	24	2,215,000.00	24	2,137,020.00	19	5,994,110.00	37	748,600.00	104	11,094,730.00
1915	31	5,956,468.00	24	4,350,000.00	18	1,636,000.00	41	1,011,250.00	114	12,953,718.00
1916	23	3,341,800.00	26	6,931,100.00	17	1,147,307.30	42	62,000.00	108	11,482,207.30
1917	68	6,653,200.00	44	9,463,500.00	21	5,734,500.00	97	102,400.00	230	21,953,600.00
1918*	45	2,839,678.00	44	16,392,130.00	31	6,710,500.00	35	123,000.00	155	26,095,308.00
Total	379	67,969,046.00	324	72,443,050.00	205	49,502,577.30	478	17,246,494.44	1,386	207,161,167.74

\* First corporation was registered March 30, 1906.

\* From January 1 to June 30 only.

The increasing investments of capital in the Islands is shown by the fact that in 1917, 230 corporations were organized with a total capital stock of \$21,953,600. In 1918, 155 corporations with a capital stock of \$26,095,308 were incorporated up to June 30.

BUREAU OF INTERNATIONAL RELATIONS  
Return to  
University of California

TABLE No. 51.—Domestic corporations registered from March 30, 1906 to June 30, 1918.

Provinces. (Headquarters.)	Natural resources.				Commerce.								Industries.								Miscellaneous.					Total.									
	Agriculture.	Mining.	Lumbering.	Fishing.	Others.	Wholesale and retail.	Import and export.	Bank and insurance.	Transportation.	Commission and brokerage.	Warehouse.	Drugs.	Others.	Printing and publishing.	Cigars and cigarettes.	Construction and repair.	Distilleries.	Ice and cold storage.	Electric and power plants.	Rice mills.	Shoes and other leather goods.	Vegetable oil.	Others.	Clubs, societies, and chambers.	Education.		Recreation.	Hotels and restaurants.	Religious.	Others.					
1. Abra.....	1	2	1						1																1	2			1			1			
2. Albay.....						2																				2						2			
3. Ambos Camarines.....									2																	1	4			1			1		
4. Antique.....																																			
5. Batangas.....	1																																		
6. Batangas.....						2																				1	4	1		1			1		
7. Bohol.....									2																										
8. Bulacan.....						1																													
9. Cagayan.....	5					1																													
10. Capiz.....						1																													
11. Cavite.....						1																													
12. Cebu.....	5	5				2			7																										
13. Ilocos Norte.....	1					2																													
14. Ilocos Sur.....	4					2			1																										
15. Iloilo.....		1	1			6			7																										
16. Isabela.....																																			
17. Laguna.....	5					5																													
18. La Union.....						2																													
19. Leyte.....	1	1	1			2			4																										
20. Manila, city of.....	64	87	13	5	1	86	27	11	45	9	5	5	13	25	10	19	15	3																	
21. Mindanao and Sulu.....	113	3	11	5		7	1		8	1	1																								
22. Mindoro.....	1	1																																	
23. Misamis.....																																			
24. Mountain.....						1																													
25. Nueva Ecija.....	2	6				1			1																										
26. Nueva Vizcaya.....	1					4																													
27. Occidental Negros.....	4		2			2																													
28. Oriental Negros.....						1																													
29. Palawan.....	1																																		
30. Pampanga.....						3		2																											
31. Pangasinan.....	1					3																													
32. Rizal.....	1					3																													



TABLE No. 52.—Foreign corporations registered and doing business under the laws of the Philippine Islands.

Nationality.	Natural resources.	Commerce.	Industry.	Miscellaneous.	Total.	Total in Philippine currency.
Great Britain (pounds) .....	1,000.00	92,679,567.00	45,000,000.00	0.00	137,680,567.00	1,340,044,958.00
Canada (dollars) .....	0.00	29,848,226.54	0.00	0.00	29,848,226.54	59,696,453.00
Australia (pounds) .....	400,000.00	150,000.00	150,000.00	0.00	700,000.00	6,813,100.00
Hongkong (dollars) .....	120,000.00	34,235,000.00	775,000.00	0.00	35,130,000.00	70,260,000.00
British India (rupee) .....	0.00	2,300,000.00	0.00	0.00	2,300,000.00	1,492,240.00
New Zealand (pounds) .....	17,000.00	13,400,000.00	0.00	0.00	13,417,000.00	130,587,661.00
Straits Settlements (dollars) .....	0.00	280,000.00	0.00	0.00	280,000.00	1,890,000.00
Others (pesos) .....	120,000.00	1,770,000.00	0.00	0.00	1,890,000.00	1,890,000.00
United States .....	10,575,000.00	211,224,900.00	50,251,000.00	0.00	272,050,900.00	544,101,800.00
Germany ? (marks) .....	0.00	376,280,000.00	0.00	0.00	376,280,000.00	179,099,760.00
Japan (yens) .....	0.00	124,000,000.00	0.00	0.00	124,000,000.00	123,504,000.00
Netherlands (guilder) .....	0.00	29,750,000.00	0.00	0.00	29,750,000.00	59,500,000.00
France (francs) .....	0.00	100,000,000.00	2,400,000.00	0.00	102,400,000.00	39,526,400.00
Spain (pesetas) .....	810,000.00	77,920,000.00	0.00	43,723.11	78,773,723.11	30,406,357.00
Switzerland (francs) .....	0.00	68,000,000.00	290,000.00	0.00	68,290,000.00	26,359,940.00
Austria (florins) .....	0.00	18,900,000.00	0.00	0.00	18,900,000.00	15,195,600.00
Java (guilders) .....	0.00	2,000,000.00	0.00	0.00	2,000,000.00	4,000,000.00
Italy (liras) .....	0.00	1,000,000.00	5,500,000.00	0.00	6,500,000.00	2,509,000.00
Belgium (francs) .....	0.00	2,600,000.00	0.00	3,000,000.00	5,600,000.00	2,161,600.00

NOTE.—The amounts shown are the authorized capital in their home countries.

TABLE No. 53.—Partnerships registered from January 5, 1900 to June 30, 1918.

77

Year.	Natural resources.		Commerce.		Industry.		Miscellaneous.		Total.	
	Number.	Capital.	Number.	Capital.	Number.	Capital.	Number.	Capital.	Number.	Capital.
1900.....	3	\$5,530,000.00	40	\$6,215,438.62	24	\$2,953,621.94	4	\$8,097,500.00	71	\$22,796,560.56
1901.....	5	6,645,000.00	40	6,300,600.00	10	1,142,527.70	1	33,750.00	56	8,121,877.70
1902.....	7	7,620,800.00	38	15,008,438.76	11	1,236,683.88	2	1,020,000.00	58	24,886,922.64
1903.....	12	4,775,809.84	37	4,627,916.87	10	619,908.19	2	17,526.00	61	10,041,160.90
1904.....	6	1,453,000.00	28	22,547,733.07	9	2,436,500.00	3	2,033,000.00	46	28,470,233.07
1905.....	7	33,090,000.00	32	5,579,871.13	20	4,080,300.01	2	2,010.00	61	42,752,181.14
1906.....	1	0.00	27	6,464,636.49	8	1,497,251.20	2	88,000.00	37	8,049,887.69
1907.....	1	0.00	29	2,920,301.26	4	189,500.00	1	2,000.00	35	3,111,801.26
1908.....	1	0.00	21	4,022,487.07	2	39,500.00	1	340,000.00	24	4,401,987.07
1909.....	1	0.00	71	5,081,197.59	3	66,790.37	1	0.00	74	6,136,987.96
1910.....	3	241,000.00	20	506,285.34	8	1,074,886.22	2	10,000.00	33	1,832,171.56
1911.....	1	0.00	12	876,499.40	8	604,383.80	1	20,000.00	22	1,500,883.20
1912.....	9	154,400.00	30	2,237,716.68	5	6,444,495.83	1	0.00	44	8,836,612.51
1913.....	16	410,931.30	211	7,576,945.20	22	652,500.00	3	10,235.00	252	8,650,611.50
1914.....	11	56,294.00	158	7,969,861.17	10	6,616,097.41	2	16,800.00	181	14,659,052.58
1915.....	3	263,000.00	145	11,899,261.17	24	599,908.56	1	5,000.00	193	12,767,169.73
1916.....	1	31,000.00	145	6,321,182.77	15	712,117.76	2	802.00	163	7,115,102.53
1917.....	2	40,000.00	146	23,243,054.38	18	1,105,803.10	1	40,000.00	167	24,428,857.48
1918.....	3	21,225.00	89	6,730,688.90	8	713,905.72	1	6,143.99	101	7,471,988.61
Total.....	90	54,382,460.14	1,339	146,130,115.87	219	32,775,681.69	81	11,742,771.99	1,679	245,031,029.69

BUREAU OF INTERNATIONAL RELATIONS  
 UNIVERSITY OF CALIFORNIA

TABLE No. 54.—Resources and liabilities of all commercial banks in the Philippine Islands.

[Source: Reports of the Insular Treasurer.]

## RESOURCES.

June 30—				
RESOURCES.				
	1910	1911	1912	1913
Loans and discounts	₱7,799,633.63	₱7,415,454.04	₱11,262,039.79	₱11,653,880.07
Overdrafts	14,019,037.37	18,189,289.22	23,922,392.39	24,508,305.11
Stocks, securities, etc.	1,399,241.06	1,691,840.91	1,475,174.61	1,450,364.03
Banking house, furniture and fixtures	260,067.77	264,966.74	283,617.34	305,113.02
Other real estate and mortgages owned	692,686.92	536,023.69	496,497.32	334,192.52
Due from other banks	277,054.16	466,693.32	604,123.16	497,997.16
Due from head office and branches	9,065,852.84	7,634,322.79	15,742,108.77	11,776,096.68
Due from agents and correspondents	1,672,982.63	2,153,702.57	3,568,660.99	1,755,902.16
Bills of exchange	2,513,254.39	3,176,654.39	5,637,251.16	5,830,284.07
Cash on hand	6,972,773.33	6,248,295.92	6,747,441.18	7,250,525.11
Checks and other cash items	123,249.12	36,987.60	207,590.54	183,473.51
Profit and loss account	19,039.54	281,224.78	315,443.40	376,538.75
Resources other than those above	903,037.19	1,019,991.45	1,509,115.05	1,486,520.77
Total	45,712,910.45	49,115,393.72	71,771,455.70	67,403,192.95
LIABILITIES.				
Capital stock	₱2,892,800.00	₱4,000,000.00	₱5,500,000.00	₱5,500,000.00
Reserve fund	1,644,059.36	2,310,506.31	2,317,902.60	3,014,274.28
Undivided profits	311,500.00	253,650.01	288,700.00	312,800.00
Bank notes in circulation	2,038,772.12	3,300,348.76	5,331,877.50	5,433,519.80
Due to other banks	277,064.16	538,388.09	667,565.37	559,331.27
Due to agents and correspondents	162,474.27	110,002.83	176,744.27	73,647.20
Due to head office and branches	10,857,477.76	11,179,611.42	23,526,541.54	21,828,754.33
Dividends due and unpaid	96,449.50	151,659.50	1,635.50	227,420.50
Demand deposits	189,638.42	119,353.27	182,309.35	112,995.89
Time deposits	6,311,463.31	10,349,317.98	10,127,432.50	12,015,607.66
Savings deposits	841,128.69	309,746.97	1,974,522.25	1,098,646.41
Current accounts	18,191,008.18	14,434,010.49	18,704,471.37	15,025,675.38
Bills payable:				
Domestic	12,280.43	8,043.37	13,381.24	82,087.09
Foreign	22,902.27	21,921.69	83,948.41	57,110.42
Cashier's checks outstanding	36,729.63	212,909.54	156,109.22	92,058.01
Certified checks	276,454.67	333,940.71	241,280.85	254,248.87
Profit and loss account	292,070.15	338,366.57	589,391.92	415,421.23
Suspense account	2,080.08	186,953.97	243,124.71	75,189.75
Liabilities other than those above	1,316,566.90	354,675.24	2,624,516.60	1,224,404.86
Total	45,712,910.45	49,115,393.72	71,771,455.70	67,403,192.95



TABLE No. 54.—Resources and liabilities of all commercial banks in the Philippine Islands—Continued.

RESOURCES.	December 31—						Increase or (decrease, 1917 over 1916.
	1913	1914	1915	1916	1917	1918 *	
Loans and discounts	₱9,591,938.41	₱9,387,878.04	₱9,393,279.03	₱21,585,237.07	₱52,871,372.23	₱115,146,704.80	₱31,286,135.16
Overdrafts	24,375,639.99	26,971,309.13	29,690,567.61	27,213,950.87	30,635,880.84	43,740,744.76	3,321,939.97
Stocks, securities, etc.	1,559,623.03	1,431,600.48	1,166,633.20	2,895,946.70	6,639,892.01	11,247,937.01	3,643,435.32
Banking house, furniture and fixtures	317,479.70	320,772.18	323,275.60	568,010.27	559,074.57	727,932.67	(8,935.75)
Other real estate and mortgages owned	312,504.87	298,769.93	258,939.30	151,160.60	386,280.36	122,881.00	235,099.76
Due from other banks	365,771.39	426,153.70	451,890.86	9,084,531.90	2,102,618.43	18,992,007.70	(6,981,983.47)
Due from head office and branches	10,859,558.64	10,968,582.05	10,736,535.12	8,173,980.64	37,572,099.61	18,992,007.70	29,398,118.97
Due from agents and correspondents	1,317,842.48	1,267,422.84	1,663,896.47	23,479,720.49	46,674,293.48	31,977,097.62	21,946,572.99
Bills of exchange	7,259,178.99	8,969,353.21	9,595,006.99	9,995,006.99	23,965,954.73	21,696,016.61	14,360,947.74
Cash on hand	6,466,001.75	8,197,658.93	8,338,678.55	9,995,867.32	10,104,111.39	33,180,133.23	117,244.07
Checks and other cash items	146,624.51	454,108.22	206,772.25	700,579.07	2,494,008.50	298,941.02	1,793,429.43
Profit and loss account	340,824.51	892,192.69	304,751.22	337,244.34	350,804.87	564,759.70	13,560.53
Resources other than those above	832,861.39	1,116,059.54	2,156,523.34	6,181,868.04	25,101,855.46	43,747,486.13	18,919,937.42
Total	63,745,929.22	66,639,866.94	71,542,868.99	121,954,154.30	239,247,726.44	321,442,652.25	117,293,572.14
LIABILITIES.							
Capital stock	5,500,000.00	5,500,000.00	5,500,000.00	10,396,420.00	16,168,765.80	14,631,255.80	5,772,345.80
Reserve fund	2,261,639.99	2,404,016.16	2,881,671.64	1,930,321.28	4,121,763.66	7,558,961.73	2,191,442.38
Undivided profits	382,500.00	4,898.27	3,848.70	369,336.73	160,042.90	247,090.12	(209,293.83)
Bank notes in circulation	5,310,695.00	5,404,871.81	5,304,135.00	5,841,327.50	10,137,357.50	11,736,652.50	4,296,030.00
Due to other banks	365,139.84	431,938.65	497,317.58	1,725,766.44	4,376,273.40	6,930,135.27	2,650,506.96
Due to agents and correspondents	196,657.94	76,442.11	357,084.77	429,508.01	2,167,407.30	6,930,135.27	1,737,899.29
Due to head office and branches	18,798,481.79	19,726,000.23	20,832,432.76	12,461,940.86	37,401,549.72	34,841,976.94	24,393,608.86
Dividends due and unpaid	227,115.50	226,905.50	226,655.50	316,265.50	786,165.40	719,250.66	469,899.90
Demand deposits	50,832.72	90,863.70	83,364.95	326,664.20	60,326.05	216,357.55	(266,338.15)
Time deposits	14,370,101.29	11,468,664.29	15,042,159.63	52,137,881.74	96,751,432.30	29,012,308.17	44,613,550.56
Savings deposits	1,166,072.66	1,275,489.72	1,157,336.12	4,503,170.71	1,591,825.29	10,731,514.32	(2,911,345.42)
Current accounts	13,057,169.76	16,600,369.46	15,615,988.79	22,798,299.91	41,690,374.89	145,985,280.09	18,892,074.98
Bills payable:							
Domestic	35,484.07	12,069.59	14,586.26	124,821.24	4,218.03	10,925,088.39	(120,403.21)
Foreign	69,077.98	42,468.81	86,254.05	59,624.37	131,389.80	71,765.43	71,765.43
Cashier's checks outstanding	49,754.61	497,016.17	66,358.22	217,542.67	462,337.60	1,147,338.16	244,794.93
Certified checks	152,610.29	328,195.89	291,872.92	156,793.19	406,765.28	418,061.13	249,972.09
Profit and loss account	435,710.16	772,467.18	979,302.52	889,007.51	1,062,413.69	1,323,412.63	273,406.18
Suspense account	137,999.20	2,114.67	2,505.93	2,257,770.74	658,680.81	153,514.43	(1,599,059.93)
Liabilities other than those above	1,184,836.42	1,775,074.73	2,599,903.65	5,011,891.70	21,008,637.02	44,863,954.36	15,996,745.32
Total	63,745,929.22	66,639,866.94	71,542,868.99	121,954,154.30	239,247,726.44	321,442,652.25	117,293,572.14

\* From January 1 to June 30 only.



TABLE 56.—*Philippine currency in circulation.*

[Source: Annual Report of the Treasurer of the Philippine Islands.]

Year.	Philippine silver certificates and bank notes of ₱2 or over.	Silver pesos and bank notes of ₱1.	Subsidiary and minor currency.	Amount in circulation.	Increase or decrease of circulation. <sup>a</sup>	Estimated population. <sup>b</sup>	Per capita circulation.
June 30—							
1906	₱18,231,374.00	₱11,167,002.00	₱5,632,035.00	₱30,030,411.00		8,064,700	₱3.7237
1907	20,028,454.50	16,313,198.00	6,472,662.25	42,814,314.75	₱12,783,903.75	8,213,100	5.2129
1908	20,626,970.00	13,866,215.00	5,944,797.04	40,337,982.04	(2,476,332.71)	8,364,200	4.8227
1909	22,996,583.15	12,806,817.00	5,725,207.59	41,528,607.74	1,190,625.70	8,518,100	4.8753
1910	23,079,923.55	14,501,162.00	6,173,611.81	43,754,697.36	7,225,089.62	8,674,900	5.0202
1911	29,104,882.76	12,753,580.00	6,297,124.39	48,155,587.15	(589,110.21)	8,834,500	5.4509
1912	32,236,969.62	13,178,751.00	6,641,172.36	52,056,892.97	3,540,305.82	8,997,000	5.7859
1913	33,622,181.80	11,594,609.00	6,817,597.92	52,034,388.72	(21,504.25)	9,162,600	5.6790
December 30—							
1913	32,804,950.11	11,017,417.00	6,874,885.67	50,697,252.78	(1,337,135.94)	9,162,600	5.5331
1914	35,430,785.81	10,025,976.00	7,118,356.93	52,575,117.74	1,877,864.96	9,331,200	5.6343
1915	34,590,991.00	9,666,064.00	7,027,851.76	51,284,906.76	(1,290,210.98)	9,503,271	5.3966
1916	47,616,680.50	11,364,874.00	8,077,654.54	67,059,189.04	15,774,282.28	9,669,500	6.9851
1917	76,949,086.50	16,127,154.00	10,504,103.07	102,580,313.57	35,521,124.53	9,838,700	10.4262
1918—							
January 31	77,255,147.00	16,281,246.00	9,463,316.53	102,999,709.53	419,395.96	—do—	10.4688
February 28	81,182,072.00	16,235,303.00	9,963,051.67	107,380,426.67	4,380,717.14	—do—	10.9141
March 31	85,641,084.00	16,153,214.00	10,401,865.85	112,195,633.85	4,815,257.18	—do—	11.4035
April 30	89,904,039.00	16,085,732.00	10,888,394.11	116,878,165.11	4,682,481.26	—do—	11.8794
May 31	91,651,798.00	16,027,499.00	11,259,414.64	118,938,711.64	1,960,646.53	—do—	12.0787
June 30	95,074,915.00	15,980,126.00	11,615,916.54	122,671,957.54	3,833,145.90	—do—	12.4683
July 31	95,702,707.00	16,941,844.00	11,884,573.72	123,529,124.72	837,167.18	—do—	12.5564
August 31	99,060,044.00	15,030,725.00	12,118,009.60	126,208,778.60	2,679,653.88	—do—	12.8278
September 30	98,132,753.00	14,979,631.00	12,308,078.66	125,418,462.66	(790,315.94)	—do—	12.7473
October 31	99,156,217.00	14,962,600.00	12,426,149.20	126,544,966.20	1,126,503.54	—do—	12.8619

<sup>a</sup> Figures in parentheses are decreases.<sup>b</sup> Prof. H. O. Beyer's "Population of the Philippine Islands in 1916."

TABLE No. 57.—*Revenue from taxation.*

[Source: Annual Reports of the Insular Auditor.]

Fiscal year.	Insular.	City of Manila.	Provincial.	Municipal.	Total.	Per capita tax.
1908-----	P21,018,985.67	P1,572,756.46	P4,442,381.36	P2,116,125.00	P29,150,248.49	P3.488
1909-----	21,950,629.70	1,447,946.65	5,623,173.81	3,253,176.05	32,274,926.21	3.789
1910-----	23,220,046.94	1,621,720.68	6,159,680.27	4,188,605.85	35,190,053.74	4.057
1911-----	24,869,894.79	1,576,400.03	6,314,247.61	4,703,252.17	37,463,794.60	4.241
1912-----	27,397,919.03	1,691,632.06	6,314,247.61	4,881,729.83	40,285,528.53	4.478
1913-----	25,757,990.08	1,780,917.06	<sup>a</sup> 6,518,800.23	<sup>a</sup> 5,178,299.85	39,236,007.22	4.282
1914 <sup>b</sup> -----	20,103,584.47	2,027,268.11	6,268,326.57	5,219,499.96	33,618,679.11	3.608
1915-----	25,769,492.78	2,082,341.29	6,180,704.14	6,051,852.75	40,084,390.96	4.218
1916-----	27,957,308.95	2,129,220.01	6,774,538.17	6,559,234.92	43,420,302.05	4.490
1917-----	35,448,412.30	2,213,318.71	7,521,054.83	7,534,541.18	52,717,327.02	5.358

<sup>a</sup> Calendar years.<sup>b</sup> Fiscal year changed to coincide with the calendar year.

TABLE No. 58.—*Functional activities of the Central Government.*

[Source: Reports of the Insular Auditor.]

Year.	Capital expenditures by governmental functions. <sup>a</sup>								Total.
	General administration.		Protective service.		Social improvement.		Economic development.		
	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	
1913	P2,500,541.50	14.415	P6,421,689.40	37.019	P5,502,890.31	31.722	P2,922,011.29	16.844	P17,347,132.50
1914	2,382,985.76	14.901	6,138,020.49	38.382	4,958,763.41	31.008	2,512,234.48	15.709	15,992,004.14
1915	2,345,637.38	14.332	6,021,669.51	36.793	4,886,445.47	29.868	3,110,889.44	19.007	16,366,641.80
1916	2,918,892.97	16.288	6,722,114.04	37.511	5,081,598.45	28.356	3,197,955.45	17.845	17,920,560.91
1917	3,137,184.25	17.220	7,832,568.85	40.248	5,148,660.04	28.261	2,599,911.71	14.271	18,218,324.85

<sup>a</sup> No segregation of expenditures by governmental functions prior to 1913.<sup>b</sup> Aid to local governments, P8,974,049.32 not included.

NOTE.—Figures are preliminary only, and subject to alteration in a later issue.

TABLE No. 59.—*Financial condition of the Insular Government during the last three years.*

[Source: Reports of the Insular Auditor.]

Items of revenue and expenditure.	1915	1916	1917	Increase or decrease. 1916-1917.
<b>Sources of revenue:</b>				
Revenue from taxation.....	₱25,769,492.78	₱27,957,308.95	₱35,448,412.30	₱7,491,103.35
Incidental Revenue.....	1,191,204.53	1,664,392.05	2,296,270.32	631,878.27
Revenue from commercial and industrial units.....	8,479,212.96	9,326,810.77	11,832,921.62	2,506,110.85
Other income of operating units.....	80,720.73	175,262.89	52,626.02	(122,636.87)
Dividends on Bank stocks.....	0.00	157,526.05	314,786.78	157,260.73
Income from United States Army Transport Service.....	0.00	125,315.10	337,470.62	212,155.52
Other revenues.....	3,927,589.70	6,298,239.88	4,498,753.78	(1,799,486.10)
<b>Total revenue.....</b>	<b>39,448,220.70</b>	<b>45,704,855.69</b>	<b>54,781,241.44</b>	<b>9,076,385.75</b>
<b>Expenditures:</b>				
General administration.....	26,558,476.16	25,384,849.41	29,437,890.53	4,053,041.12
Expenditures of operation of industrial and commercial units, etc.....	7,182,996.20	7,623,904.40	9,063,829.24	1,439,924.84
Interest on public debt.....	972,193.75	1,000,117.30	1,289,822.62	289,705.32
Sinking funds.....	982,786.63	686,873.14	855,639.49	168,766.35
Repayment of loans.....	0.00	22,500.00	22,500.00	0.00
Gratuities.....	0.00	99,476.30	584,353.28	484,876.98
Outlays and investments.....	2,065,496.60	6,042,123.53	3,992,291.45	(2,049,832.08)
Other expenditures.....	335,251.25	46,969.05	162,391.13	115,422.08
<b>Total expenditures.....</b>	<b>38,097,200.59</b>	<b>40,906,813.13</b>	<b>45,408,717.74</b>	<b>4,501,904.61</b>
<b>Current surplus for the year.....</b>	<b>1,351,020.11</b>	<b>4,798,042.56</b>	<b>9,372,523.70</b>	<b>4,574,481.14</b>
<b>Current surplus at the beginning of the year.....</b>	<b>8,883,096.66</b>	<b>10,234,116.77</b>	<b>15,032,159.33</b>	<b>4,798,042.56</b>
<b>Current surplus at the end of the year....</b>	<b>10,234,116.77</b>	<b>15,032,159.33</b>	<b>24,404,683.03</b>	<b>9,372,523.70</b>

NOTE.—Figures in parenthesis indicate decreases.

TABLE No. 60.—*Bonded indebtedness of the central and municipal governments of the Philippine Islands, June 30, 1918.*

[Source: Annual Reports of the Insular Treasurer.]

Title.	Amount.	Date of bonds.	Rate of interest.	Interest payable.	Authorization.
Friar lands ten thirtieth year gold bonds, due February 1, 1934.	P14,000,000.00	Feb. 4, 1904	<i>Per ct.</i> 4	February, May, August, and November	Act of Congress, approved July 1, 1902, and Act No. 1034, Philippine Commission.
Public works ten thirtieth year gold bonds:					
First series, due March 1, 1935	5,000,000.00	March 1, 1905	4	March, June, September, and December	Act of Congress, approved February 6, 1905, and Acts Nos. 144, and 1964 of the Philippine Legislature.
Second series, due February 1, 1936	2,000,000.00	Feb. 1, 1906	4	February, May, August, and November	
Third series due August 31, 1939	3,000,000.00	Aug. 1, 1909	4	do	
Manila sewer and waterworks ten thirtieth year gold bonds:					
First series, due June 1, 1935	2,000,000.00	June 1, 1905	4	March, June, September, and December	Act of Congress, approved July 1, 1902, and Act No. 1323 of the Philippine Commission.
Second series, due January 2, 1937	4,000,000.00	Jan. 2, 1907	4	January, April, July, and October	
Third series, due January 2, 1938	2,000,000.00	Jan. 2, 1908	4	do	
Cebu Waterworks ten thirtieth year gold bonds, due January 1, 1941.	250,000.00	Jan. 1, 1911	4	do	Act of Congress, approved July 1, 1902, and Act No. 2009 of the Philippine Legislature.
Manila Railroad purchase ten thirtieth year gold bonds, due December 1, 1946.	8,000,000.00	Dec. 1, 1916	4	March, June, September, and December	Act of Congress, approved August 29, 1916, and Act No. 2615 of the Philippine Legislature.
Total bonded indebtedness	40,250,000.00				

85

NOTE.—The total bonded debt of the Insular Government on September 30, 1918 is P32,000,000. The total amount set aside to pay off this bonded debt at maturity is P3,063,579.11 on September 30, 1918.

TABLE NO. 61.—*Reserve for redemption of indebtedness of the Insular Government.*

[Source: Reports of the Treasurer of the Philippine Islands.]

Year ending—	Bonded indebtedness.	Total sinking fund reserve at end of year.				Balance of bonded indebtedness not provided for at end of year.
		Friar lands bonds.	Public Works bonds.	Manila Railroad bond.	Total.	
June 30—						
1908 <sup>a</sup> -----	₱24,000,000.00	₱1,205,098.72	₱547,052.57	-----	₱1,752,151.29	₱22,247,848.71
1909 -----	24,000,000.00	1,391,841.18	714,201.01	-----	2,106,042.19	21,893,957.81
1910 -----	24,000,000.00	1,876,754.23	882,973.17	-----	2,759,727.40	21,240,272.60
1911 -----	24,000,000.00	2,711,793.72	1,124,083.01	-----	3,835,876.73	20,164,123.87
1912 -----	24,000,000.00	3,384,929.20	1,370,517.07	-----	4,755,446.27	19,244,553.73
1913 -----	24,000,000.00	4,166,972.68	1,634,913.72	-----	5,801,886.40	18,198,113.60
December 31—						
1913 -----	24,000,000.00	4,426,986.19	1,726,702.38	-----	6,153,688.57	17,846,311.43
1914 -----	24,000,000.00	<sup>d</sup> 3,855,961.19	<sup>e</sup> 1,711,665.17	-----	5,567,626.36	18,432,373.64
1915 -----	24,000,000.00	4,580,210.74	1,970,202.25	-----	6,550,412.99	17,449,587.01
1916 <sup>b</sup> -----	32,000,000.00	<sup>f</sup> 4,087,082.86	2,237,788.10	-----	6,324,870.96	25,675,129.04
1917 -----	32,000,000.00	4,510,030.34	2,514,739.45	₱155,740.66	7,180,510.45	24,819,489.55
1918 <sup>c</sup> -----	32,000,000.00	4,938,713.43	2,815,535.18	315,330.50	8,069,579.11	23,930,420.89

<sup>a</sup> Friar Lands Bond, ₱14,000,000, Act No. 1034, February 4, 1902, and Public Works Bond, ₱10,000,000. Acts Nos. 1301, 1444 and 1954. <sup>b</sup> Increase in Bonded Debt in the sum of ₱8,000,000 is due to the purchase of the Manila Railroad Company, Act No. 2615, December 1, 1916. <sup>c</sup> From January 1 to September 30 only. <sup>d</sup> Decrease of funds due to reversion of ₱1,300,000 surplus in accordance with Act No. 2434. <sup>e</sup> Decrease of fund is due to reversion of ₱282,752.58 surplus in accordance with Act No. 2425. <sup>f</sup> Decrease of fund is due to readjustment to place the sinking fund in a correct amortization basis in accordance with Act No. 2550.



TABLE No. 62.—*Real estate property in the Philippine Islands in 1917.*

[Source: Report of the Insular Auditor for 1917.]

Provinces and cities.	Assessed value of real property.			Real estate tax.	Per capita.	
	Taxable.	Exempt.	Total.		Value of real estate.	Real estate tax.
Abra	P2,991,750.00	P301,650.00	P3,293,400.00	P19,837	P50.535	P.304
Albay	31,494,500.00	4,671,690.00	36,166,190.00	268,895	123.792	.971
Ambos Camarines	20,541,670.00	2,606,600.00	23,148,270.00	200,191	75.581	.683
Antique	4,240,220.00	757,080.00	4,997,300.00	49,397	31.259	.308
Bataan	4,892,210.00	956,180.00	5,848,390.00	39,977	114.077	.779
Batanes	1,113,440.00	141,200.00	1,254,640.00	5,045	144.460	.580
Batangas	16,991,420.00	2,117,160.00	19,108,580.00	139,137	66.635	.485
Bohol	17,251,490.00	3,949,390.00	21,200,880.00	157,881	68.885	.513
Bulacan	30,867,880.00	5,578,020.00	36,445,900.00	253,900	145.019	1.010
Cagayan	13,953,960.00	3,365,530.00	17,319,490.00	152,345	90.008	.781
Capiz	11,972,810.00	2,533,040.00	14,505,850.00	103,080	50.555	.359
Cavite	10,931,160.00	2,205,520.00	13,136,680.00	78,795	83.419	.500
Cebu	27,229,310.00	6,588,940.00	33,818,250.00	206,890	46.456	.284
Ilocos Norte	13,234,390.00	2,438,210.00	15,672,600.00	116,411	84.513	.627
Ilocos Sur	12,064,340.00	1,797,290.00	13,861,630.00	102,624	81.706	.600
Iloilo	27,111,560.00	8,117,030.00	35,228,590.00	242,440	77.440	.533
Isabela	11,432,750.00	733,580.00	12,166,330.00	102,719	123.195	1.040
Laguna	26,067,590.00	2,427,720.00	28,495,310.00	220,251	162.401	1.255
La Union	11,043,160.00	1,417,190.00	12,460,350.00	106,917	83.931	.720
Leyte	30,049,120.00	3,157,170.00	33,206,290.00	218,255	71.484	.435
Mindanao and Sulu:						
Agusan	1,669,240.00	342,630.00	2,041,870.00	18,449	33.044	.299
Bukidnon	1,216,300.00	92,760.00	1,309,060.00	000	21.743	-----
Cotabato	687,071.00	110,520.00	797,591.00	6,287	7.888	.062
Davao	5,484,586.00	262,336.00	5,746,922.00	46,216	5.050	.406
Lanao	659,930.00	68,660.00	728,590.00	5,369	8.842	.066
Sulu	995,350.00	93,533.00	1,088,883.00	6,244	9.244	.055
Zamboanga	8,236,121.00	1,272,952.00	9,509,073.00	99,409	73.557	.769
Mindoro	4,524,367.80	189,628.95	4,713,996.75	37,274	73.913	.584
Misamis	15,865,820.00	1,059,880.00	16,925,700.00	145,465	95.556	.884
Mountain	462,790.00	148,590.00	611,380.00	31,221	18.343	.111
Nueva Ecija	27,290,150.00	1,782,190.00	29,072,340.00	179,914	173.228	1.070
Nueva Vizcaya	2,290,569.00	140,551.00	2,431,120.00	17,785	70.131	.513
Oriental Negros	27,662,100.00	3,581,520.00	31,243,620.00	251,082	75.444	.606
Occidental Negros	9,199,340.00	1,806,950.00	11,006,290.00	82,412	52.970	.317
Palawan	936,970.08	308,206.69	1,245,176.77	4,425	10.910	.067
Pampanga	22,289,670.00	3,461,890.00	25,751,560.00	207,681	95.348	.769
Pangasinan	35,806,970.00	6,544,270.00	42,351,240.00	295,111	79.157	.551
Rizal	24,756,160.00	6,482,930.00	31,239,090.00	199,733	173.044	1.106
Romblon				13,324		.201
Samar	12,476,960.00	3,175,910.00	15,652,870.00	152,984	48.128	.470
Sorsogon	15,545,380.00	1,781,510.00	17,326,890.00	124,689	86.182	.661
Surigao	6,513,050.00	1,417,875.00	7,930,925.00	53,815	76.741	.457
Tarlac	15,918,920.00	2,055,870.00	17,974,790.00	145,522	107.159	.862
Tayabas	41,329,910.00	6,602,660.00	47,932,579.00	375,546	249.285	1.537
Zambales	4,882,040.00	439,500.00	5,321,540.00	50,957	48.100	.465
City of Manila	104,034,710.00	64,366,623.00	168,401,333.00	1,566,912	632.505	5.885
Total	716,625,420.88	169,558,485.64	886,183,906.52	6,956,901	90.071	0.688
United States					995.054	4.12,

NOTE.—A greater part of the exempted property valued at about P150,000,000 belongs to the various religious denominations in the Islands.

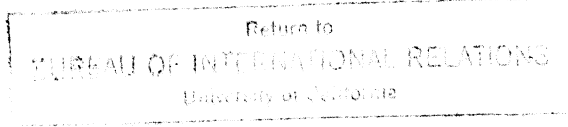


TABLE No. 63.—*Health statistics of the Philippine Islands from 1904 to 1917.\**

[Source: Philippine Health Service.]

Year.	Philippine Health Service's estimate of population.	Marriages.		Births.		Deaths.		Number of deaths per 1,000 of births.
		Number.	per 1,000.	Number.	Per 1,000.	Number.	Per 1,000.	
1904.....	7,765,228	(b)	(b)	216,176	27.839	146,921	18.920	67.964
1905.....	7,897,237	(b)	(b)	244,586	30.971	166,555	21.090	68.097
1906.....	8,031,490	(b)	(b)	215,296	26.806	143,284	17.840	66.552
1907.....	8,168,025	(b)	(b)	258,010	31.588	138,464	16.952	53.666
1908.....	8,306,881	(b)	(b)	278,369	33.511	190,495	22.932	68.433
1909.....	8,448,098	(b)	( )	243,726	28.850	179,355	21.230	73.589
1910.....	8,591,716	c 435	.....	290,210	33.778	191,576	22.298	66.013
1911.....	8,737,775	d 2,027	8.647	302,855	34.660	188,412	21.563	62.212
1912.....	8,886,317	d 2,249	9.594	290,995	32.746	185,185	20.839	63.639
1913.....	9,037,385	d 2,315	9.344	316,056	34.972	154,086	17.050	48.753
1914.....	9,191,020	d 2,336	8.751	347,337	37.791	163,948	17.837	47.200
1915.....	9,347,267	d 2,176	8.152	327,206	35.006	176,313	18.863	53.884
1916.....	9,506,170	67,179	7.067	336,328	35.380	190,430	20.032	56.620
1917.....	9,667,774	80,500	8.327	350,002	36.203	209,444	21.664	59.841

\* No data available for 1918.

b No data available.

c Marriages in the city of Manila for last half of year only.

d Marriages for the city of Manila only.

TABLE No. 64.—*Infant mortality from 1904 to 1917, showing the proportion of deaths of infants to total number of births.*

[Source: Philippine Health Service.]

Year.	Number of births.	Under 30 days.		30 days to under 1 year.		1 year to under 2 years.		2 years to 4 years.		Total from under 30 days to 4 years.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1904.....	216,176	14,774	6.834	33,818	15.644	12,939	5.985	15,489	7.165	77,020	35.628
1905.....	244,586	15,785	6.454	33,277	13.605	15,583	6.371	18,216	7.448	82,861	33.878
1906.....	215,296	14,366	6.673	26,679	12.392	13,809	6.414	17,705	8.224	72,559	33.702
1907.....	258,010	16,344	6.325	26,967	10.452	13,694	5.308	15,091	5.849	72,096	27.943
1908.....	278,369	18,845	6.770	34,123	12.258	13,145	6.518	26,014	9.345	97,127	34.891
1909.....	243,726	18,374	7.539	33,032	13.553	19,065	7.822	23,693	9.721	94,164	38.635
1910.....	290,210	20,349	7.012	37,220	12.825	19,492	6.509	24,306	8.428	101,520	34.982
1911.....	302,855	20,599	6.802	38,145	12.595	19,712	6.509	24,306	8.26	102,762	33.931
1912.....	290,995	18,915	6.500	35,051	12.045	20,237	6.964	22,652	7.784	96,855	33.284
1913.....	316,056	19,722	6.240	28,490	9.014	13,951	4.414	15,274	4.833	77,437	24.501
1914.....	347,337	22,097	6.362	32,738	9.425	14,305	4.118	14,522	4.181	83,662	24.087
1915.....	327,206	21,403	6.541	36,470	11.146	19,011	5.810	17,063	5.215	93,947	28.712
1916.....	336,328	23,493	6.985	33,804	10.051	18,050	5.367	20,298	6.035	95,645	28.438
1917.....	350,002	25,276	7.222	39,710	11.346	20,603	5.887	22,416	6.405	108,005	30.858

NOTE.—No data available for 1918.

TABLE 65.—*Health statistics of the city of Manila.*

[Source: Philippine Health Service.]

Year ending—	Popula- tion.	Mar- riages.	Births.	Deaths.		Rate per 1,000 popula- tion.			Mortality of infants under 5 years of age.	
				Under 5 years.	Total.	Mar- riages.	Births.	Deaths.	Per- cent- age on total births.	Per- cent- age on total deaths.
June 30—										
1908-----	223,542	(a)	8,674	5,526	9,351	-----	38.80	40.01	63.71	59.09
1909-----	223,542	(a)	8,685	6,120	10,287	-----	38.85	46.01	70.47	59.49
1910-----	234,409	(a)	9,914	5,152	8,727	-----	42.29	37.22	51.97	59.04
1911-----	234,409	1,493	9,180	5,120	8,279	6.37	39.16	35.31	55.77	61.84
1912-----	234,409	2,140	9,340	5,572	9,285	9.13	39.84	39.61	59.66	60.01
December 31—										
1913 <sup>b</sup> -----	247,756	1,051	4,721	1,947	3,678	-----	37.82	29.46	41.24	52.94
1914-----	266,943	2,336	9,599	4,332	7,811	8.75	35.95	29.26	45.13	55.46
1915-----	266,943	2,176	8,850	4,725	8,134	8.15	33.15	30.47	53.31	58.09
1916-----	266,943	2,366	9,082	4,621	8,489	8.86	34.02	31.15	50.88	54.44
1917-----	266,943	2,285	8,597	3,817	7,911	8.56	31.05	29.64	48.25	44.39

<sup>a</sup> No data available.<sup>b</sup> From July 1 to December 31 only.

TABLE No. 66.—*Public education. All Schools except the University of the Philippines.*

[Source: Bureau of Education.]

Year.	Number of schools.	Total annual enrolment.	Average monthly enrolment.	Average daily attendance.	Teachers and supervisors.						Average number of pupils to each teacher.	Total expenditures.	Average cost of education per pupil.	Estimated school population.	Per cent of enrolment to school population.
					Americans.		Filipinos.		Total.						
					Male.	Female.	Male.	Female.	Male.	Female.					
1908	3,932	486,676	339,243	264,807	535	187	4,833	1,999	7,454	45.5	P5,127,117.15	10.53	1,394,000	34.09	
1909	4,424	570,502	405,478	299,625	570	255	5,634	2,315	8,774	46.2	5,747,997.32	10.08	1,419,700	40.10	
1910	4,531	587,317	427,165	314,336	493	239	5,832	2,443	9,007	50.2	6,475,325.81	11.03	1,445,900	40.61	
1911	4,404	610,493	446,889	355,722	440	243	5,940	2,463	9,086	49.2	6,447,713.25	10.56	1,472,400	41.46	
1912	3,686	529,665	396,075	329,073	433	231	4,082	1,886	6,632	60.4	6,527,636.66	10.43	1,499,500	35.32	
1913	2,934	440,050	329,756	287,995	446	212	4,795	2,218	7,671	42.9	6,461,322.41	14.68	1,527,100	22.26	
1914	4,235	621,030	489,070	428,552	417	195	6,169	2,681	9,642	54.0	7,639,178.65	12.30	1,555,200	39.38	
1915 <sup>a</sup>	4,291	621,114	501,630	448,014	388	162	6,641	2,884	10,075	49.7	8,056,121.10	12.97	1,583,900	39.21	
1916 <sup>a</sup>	4,412	638,543	523,272	471,195	350	156	7,191	3,266	10,963	47.7	7,430,439.73	11.64	1,611,600	39.62	
1917 <sup>a</sup>	4,702	675,998	567,625	514,263	325	142	7,986	3,840	12,293	46.1	9,164,222.58	13.56	1,639,800	41.22	
1918 <sup>a</sup>	4,747	671,398	569,475	521,377	411	---	12,875	---	13,286	42.8	---	---	1,668,500	40.24	

<sup>a</sup> Includes Department of Mindanao and Sulu.

# THE PHILIPPINE PUBLIC SCHOOL SYSTEM.

By Dr. W. W. MARQUARDT, *Director of Education.*

## ORGANIZATION OF THE BUREAU OF EDUCATION

The school year in the Philippine Islands begins the second Monday in June and ends the first of April.

The following general statement covers the school years 1916-1917 and 1917-1918:

During this period no important change took place in the organization of the public school system. The system is a highly centralized one, the Director having charge of all public schools in the Islands. In certain matters of policy his action is subject to the approval of the Secretary of Public Instruction. Besides the Director, there is an Assistant Director, a Second Assistant Director, a general office force, and a field force.

The work of the general office is in charge of the chiefs of the following divisions: Academic, accounting, industrial, property, and records.

In the field the division superintendent of schools occupies the most important position, and is directly responsible to the Director of Education. He supervises the schools of a province and under him are usually a supervisor of academic instruction, one or more supervisors of industrial instruction, a high school principal, and several supervising teachers.

The division is divided into supervising districts, each in charge of a supervising teacher who has control of primary and intermediate schools within his district. There are forty-eight divisions and more than three hundred supervising districts.

## SCHOOLS AND PUPILS

The following data show the growth in the number of schools and pupils. It will be seen that there was no increase in the number of primary schools and a very slight increase in the number of secondary schools, whereas the number of intermediate schools grew rapidly because intermediate schools are supported almost entirely by tuition fees. If intermediate schools had depended upon governmental revenues, no increase could have been made.

		Primary.	Inter- mediate.	Secondary.	Total.
Schools.....	(1917-18	4,276	423	48	4,747
	(1916-17	4,288	368	46	4,702
Annual enrolment .....	(1917-18	592,563	64,306	14,529	671,398
	(1916-17	607,682	56,884	11,432	675,998
Average monthly enrolment .....	(1917-18	499,986	56,592	12,897	569,475
	(1916-17	507,226	50,306	10,093	567,625
Average daily attendance .....	(1917-18	455,754	53,232	12,391	521,377
	(1916-17	457,383	47,230	9,650	514,263
Percentage of attendance .....	(1917-18	91 per cent	94 per cent	96 per cent	92 per cent
	(1916-17	90 per cent	94 per cent	96 per cent	91 per cent

One encouraging feature of attendance figures is that the proportion of girls to boys in the public schools, especially in the higher grades, is increasing. Gradually the Oriental attitude toward education of women is being overcome and at present nearly 40 per cent of the total number of pupils in school are girls. The greatest difficulty has been experienced keeping girls in school after they finish the primary grades and even before they finish the primary grades. Statistics show, however, that the proportion of pupils who are girls in higher grades is gradually increasing. Comparison of figures of attendance of boys and girls in intermediate grades for the school years 1910-1911 and 1916-1917, shows that the increase in attendance of boys was 82 per cent while that of girls was 222 per cent. In the high schools the figure for boys was 250 per cent and for girls, 267 per cent. These data indicate that an increasing number of girls are no longer content with a primary education. With the introduction of the new secondary course in housekeeping and household arts it is believed that a proportionate increase in the number of girls in the high schools will take place.

Extension of school facilities among non-Christians has gone on rapidly. The Philippine Legislature was liberal in the appropriation of Insular funds for this purpose and the funds were distributed to help equalize educational opportunity. Consequently the number of schools for non-Christians and the attendance of non-Christians increased greatly. Special attention was given to fitting instruction to the varying needs of these people. Agricultural instruction was emphasized in practically all new schools opened for them.

#### PHYSICAL EQUIPMENT OF THE PUBLIC SCHOOLS

The past two years saw great improvement in the equipment of public schools, especially in regard to school furniture. There was also an increase in the number of school sites and school buildings.

The number of school sites for 1916 was 2,623 and for 1918, 2,824. Considerably more than one-half of these sites are first-class according to the classification below.

## A. FIRST-CLASS SITES

1. A minimum area of one-half hectare for every 200 pupils of the annual enrolment or fraction thereof up to 2 hectares for 800 pupils or more is required.
2. The site must be well located and easily accessible.
3. The site must be well drained and sanitary.
4. The topography must be such that a satisfactory athletic field can be laid out.
5. The soil must be suitable for gardening.

## B. SECOND-CLASS SITES

1. A minimum of one fourth hectare for every 200 pupils of the annual enrolment or fraction thereof up to 1 hectare for 800 pupils or more is required.
2. An unsanitary site or one entirely unfit for gardening and athletics should not be considered second class.

## C. THIRD-CLASS SITES

1. All other sites come under this head.

Conditions brought about by the Great War have greatly increased the cost of construction of all types of buildings, especially of the standard reinforced concrete structure, the type of permanent building commonly erected for school purposes. Construction of this type of building has continued, however, because relief from high costs of materials can scarcely be expected for some years to come and the additional prosperity tends to lessen the burden of increased cost of construction. In 1917, 840 buildings, 448 of which were of reinforced concrete, were classed as permanent, while in 1916, only 757 were so classified.

The greatest advance in physical conditions during the last two years took place in the equipment of schools with suitable school desks and other furniture. At the close of the school year 1917-1918 there were comparatively few provinces in which any large proportion of pupils were without desks. In the campaign to provide each pupil with a desk of approved type the provincial trade schools and school shops rendered valuable service and in addition constructed teachers' tables, bookcases, and other school furniture.

## TRAINING AND WELFARE OF TEACHERS

Facilities for training teachers both before and after they enter the teaching service were materially increased during the last two years. Attendance in the higher classes of the Philippine Normal School greatly increased and the total number of

graduates from this institution for the last three years is greater than the total number of graduates for all preceding years.

The Philippine School of Arts and Trades continued to turn out teachers of woodworking and mechanical drawing, and the Central Luzon Agricultural School sent out a large number of teachers to agricultural, farm, and settlement farm schools. These teachers were scattered throughout the Archipelago, but a large number of them went to the Department of Mindanao and Sulu where many new settlement farm schools have been opened.

The settlement of five hundred teachers representing practically every province in the Philippine Islands in the Department of Mindanao and Sulu is a significant development in education and in the problem of final unification and nationalization of the people of these Islands.

At the beginning of the school year 1916-1917 a four-year normal course was organized in five large provincial high schools. At the same time the course of study in the Philippine Normal School was revised so only students who had completed the first year of the regular high school course were eligible for entrance. The Philippine Normal School now gives a special one-year course for supervising teachers and principals in addition to its courses in academic, industrial, domestic science, and physical education. In 1917 a two-year normal course was outlined and put into effect in two or three high schools where the complete secondary course was not offered.

The Legislature in 1917 appropriated \$150,000 for the establishment of two new normal schools, one in Northern Luzon and one in the Visayas. Large sites for these schools have been secured and construction is expected to begin soon.

The College of Education of the University of the Philippines now has a larger attendance and is supplying teachers for secondary work. It is evident, however, that this institution can do little towards supplying enough secondary teachers when the average attendance of secondary students is more than 12,000 and when the yearly increase is so great that the attendance almost doubles every three years. At present, the problem of securing suitable secondary teachers is acute. Due to the war it is impossible and undesirable to get young men from the United States; and, while a certain number of women teachers have been secured, not enough are now (August, 1918), available to properly staff our secondary schools.

A rather complete system for the training of teachers in service has been developed because a large proportion of teachers have had little or no actual training in normals or other schools



for the preparation of teachers. During each of the school years 1916-1917 and 1917-1918 about 800 selected teachers from all divisions attended for a five-weeks period the teachers' vacation assembly in Manila, where primary and intermediate methods, and the latest developments in industrial work were emphasized. Upon returning to their divisions the teachers who attended the assembly in Manila became instructors for four weeks in division normal institutes for division teachers. The assembly in Manila and the division institutes which followed were of utmost importance in the improvement of the character of academic and industrial instruction. A professional reading course for all intermediate teachers has been outlined for the present school year.

Other agencies used for improving the quality of teachers are: Visiting days, which have become a feature of school work in practically all divisions, and teachers' meetings of various kinds.

The teachers' vacation assembly, held in Baguio during April and May of each year and attended by American and Filipino teachers and supervisory officers, is also an important factor in improving school work. Conferences lasting a week each were held (1) for teachers and principals of intermediate and high schools, (2) for supervising teachers, and (3) for industrial teachers. Following these conferences was the convention of division superintendents.

Classes for Filipino supervising teachers were also held in Baguio. In 1918 for the first time model classes were conducted in connection with these classes. Model classes henceforth will be the most important feature of the teachers' vacation assembly in Manila and of the division institutes.

#### TEACHERS AND THEIR WORK

The number of teachers on duty in March of each of the last three years is shown below.

Teachers.	March.		
	1916	1917	1918
Americans .....	506	477	411
Insular .....	1,279	1,391	1,389
Municipal .....	9,138	10,336	11,484
Apprentice .....	40	99	2
Total .....	10,963	12,303	13,286

The number of American teachers has decreased nearly 100, the number of Insular teachers has increased 110, and the number of municipal teachers has increased at the rate of more than 1,000 a year.



The following table shows the number of teachers assigned to various duties in March of each of the last three years:

Teachers.	March.		
	1916	1917	1918
Primary.....	8,495	9,585	10,437
Intermediate.....	1,104	1,339	1,886
Secondary.....	231	268	343
Industrial instruction and supervision.....	800	891	213
General supervision.....	303	320	340

### COURSES OF STUDY

An important change in the courses of study was the introduction of new courses in secondary schools. The primary course of study has remained practically unchanged. Few changes were made in intermediate courses where, however, some interesting developments as regards distribution of pupils among the courses took place. The enrolment in intermediate grades by courses for March of the last three years is shown below.

Courses.	March.		
	1916	1917	1918
General.....	23,129	30,399	35,999
Teaching.....	7,412	3,436	1,861
Trades.....	3,582	3,510	3,000
Farming.....	1,380	1,662	1,721
Housekeeping and Household Arts.....	5,917	7,585	9,449

These figures show that the intermediate teaching course is dead. Practically no pupils were enrolled in this course at the beginning of the school year 1918-19. Teachers of higher attainments than the completion of an intermediate course are now available in most provinces. The table shows a large increase in the number of girls enrolling in housekeeping and household arts and a small increase in enrolment of boys in the farming course. A greater increase is expected in the farming course.

In 1918 new secondary courses were outlined. The general course and the four-year normal course were revised. Courses in housekeeping and household arts, in commerce, and in agriculture were outlined for the first time. It is not expected that these new courses will be used in all provincial high schools, but they will be given in several of the larger schools where the number of pupils and the equipment make a diversification in courses feasible.

In addition to the courses offered in provincial high schools

there are six Insular schools—the Philippine Normal School, the Philippine School of Arts and Trades, the Philippine School of Commerce, the Philippine Nautical School, the School for the Deaf and the Blind, and the Central Luzon Agricultural School—which offer special courses. The work of the Philippine Normal School has already been mentioned, as has also the fact that the Philippine School of Arts and Trades and the Central Luzon Agricultural School give courses of training for industrial and agricultural teachers. The Philippine School of Arts and Trades also gives courses in woodworking, ironworking, electrical wiring, plumbing, automobile operation, preparatory engineering, and surveying. The Philippine School of Commerce gives courses in bookkeeping, stenography, typewriting, and commerce. The Philippine Nautical School gives a two-year course of training to fit young men to become officers on interisland vessels and transpacific steamers. The Central Luzon Agricultural School offers in addition to its teaching course a course in farm management and one in the operation of steam and gas engines.

#### PHYSICAL EDUCATION AND MEDICAL AND DENTAL INSPECTION

The war has directed attention to the necessity of conserving human life and of increasing efficiency. For years practically all students in Philippine public schools have engaged in some form of physical exercise, the effects of which upon the physical development of the Filipino people are distinctly apparent. During 1917–1918 military training was prescribed for all boys in high schools and physical education was given a more definite place in all secondary courses of study. A complete course in physical education for primary, intermediate, and secondary grades is being prepared. When this is published, instruction will be more systematic and uniform.

Medical and dental inspection of pupils is in the hands of the Philippine Health Service which has done valuable work along this line. It did not give to these matters all the attention needed, however, because of lack of sufficient personnel. Medical inspection has been quite general, but dental inspection has been limited to a few places. During the last year a letter was addressed to division superintendents requesting them to take up with provincial boards the matter of providing more adequate medical and dental inspection in the public schools and of securing additional nurses for public school service. As a result increased attention has been given these matters, but conditions are yet far from satisfactory and will remain so until there are several provincial nurses in each division; at least one municipal

nurse in each large municipalities; and an adequate corps of physicians to examine pupils for defects and diseases.

#### WAR ACTIVITIES OF THE BUREAU OF EDUCATION

The public schools entered the food production campaign with enthusiasm and as a consequence the cultivated area of school and home gardens and the production of food doubled. Thus the Philippine Islands helped to conserve food for the Allied forces and, in addition, many Filipinos enjoyed a more varied diet.

Red Cross work was done in the schools in 1917, but this work is now being undertaken on a larger scale. In the public schools bandages for wounded soldiers and clothing for French and Belgian refugee children are being made in large numbers. A Red Cross membership campaign just ended has resulted in the enrollment of more than 12,000 teachers as senior members of the Red Cross Society and more than 200,000 pupils as junior members. During the teachers' vacation assembly in Baguio a Red Cross drive on May 7, 1918, resulted in the raising of \$2,500.

American and Filipino teachers and other employees have subscribed liberally for Liberty Loan Bonds. Employees of the Bureau of Education purchased more than \$60,000 worth of Liberty Loan Bonds of the third issue in addition to their subscriptions to the first and second issues.

#### ACADEMIC INSTRUCTION

A great improvement in academic instruction took place during 1916-1917 and 1917-1918. This was largely a result of better facilities for training teachers, and closer and more effective supervision. The appointment of a larger number of academic supervisors helped to make supervision much more satisfactory. However, much variation in efficiency of instruction still exists.

In academic instruction increased efficiency—the main factor in the promotion of pupils—was shown by the average increase of 6 per cent in promotions in all grades for 1916-17 over 1915-16. As this increase was not due to any lowering of standards, it was significant.

#### INDUSTRIAL INSTRUCTION

Industrial instruction occupies an important place in the courses of study. About 17 per cent of the total time in primary grades and 18 per cent of the total time in the general intermediate course is devoted to this form of instruction. In special intermediate courses and in special types of primary schools about half of the time is devoted to industrial work. The follow-

ing data give an idea of the value of the commercial output of the public schools for the school year 1917-18: Embroideries, \$12,500; lace, \$9,000; crochet, \$4,500; sewing, \$28,000; cooking, \$3,500; basketry, \$33,000; hats, \$1,500; products of loom weaving, \$3,500; bamboo-rattan furniture, \$3,000. A large number of other articles were made in small quantities.

The value of the gross output of trade schools during the last three years follows: For 1915, \$61,418.81; for 1916, \$79,132.04; for 1917, \$106,485.12. These figures include cost of material and therefore do not give a definite idea of the total value of work done by pupils.

Due to war conditions the total value of embroideries exported from the Philippines increased from \$162,456 in 1914 to \$1,561,214.50 for the fiscal year, July 1st, 1916, to June 30, 1917. A part of this increase was undoubtedly made possible by instruction given in the public schools.

War conditions have not been favorable for the production of all commercial articles in the public schools, however. The great increase in transpacific freight rates has made it unprofitable to export articles the value of which is not relatively great as compared with weight and bulk. Excessive cost of transportation has thus made it necessary to abandon the making of larger and more bulky articles.

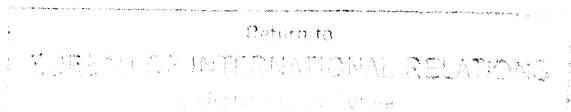
The Bureau of Education through traveling industrial teachers has fostered household centers, the member of which engaged in the making of embroidery, lace, and other articles of handicraft. The Bureau of Education gave up the supervision of these centers as soon as they were developed to a point where they could deal directly with business houses.

During the last year the value of school production of articles of handicraft was \$86,270.50 and the value of production of household centers was \$11,782. Articles to the value of \$92,200 were sold through the General Sales Department of the Bureau of Education, and local sales amounted to \$5,852.50.

#### AGRICULTURAL INSTRUCTION

Facilities for agricultural instruction were developed and extended. The number of agricultural, farm, and settlement farm schools increased from 79 for the year 1915-16 to 138 for 1917-18. Of the increase, 9 were agricultural schools; 12, farm schools; and 117, settlement farm schools. During the same period enrolment in these schools nearly doubled; the cultivated area doubled; and the total value of production much more than doubled, having been more than \$45,000 for 1917-18.

Agricultural clubs for boys and girls were organized in



1916-17. Club projects now include gardening, cooking, chicken and hog raising, and fruit growing. At the end of the year 1916-17 club members owned 31,538 chickens and 2,247 hogs. During 1917-18 the number of clubs increased to 1,136 and at the end of the year the number of chickens and hogs owned was 58,458 and 2,744 respectively.

An organization pamphlet and 120 lesson leaflets are now being distributed to members and these help to direct the work and make it more effective. The work of these clubs has an important bearing upon the educational and economic development of the country. This is an agricultural country and everything that tends to increase agricultural production brings nearer the time when all, instead of one-half, of Filipino children may enjoy educational privileges.

School and home gardens did much to provide a varied diet and to improve living conditions. The following table shows the number of school and home gardens for the last three school years:

Gardens.	1915-16	1916-17	1917-18
School gardens.....	3,545	3,960	4,023
Home gardens.....	48,432	54,655	103,668

Garden days, 1,272 of which were held in 1917-18, aroused interest in home gardening. At these celebrations pupils and farmers not only exhibited garden products, but exhibited domestic animals as well. The Bureaus of Agriculture, Forestry, Health, and Constabulary coöperated with the Bureau of Education in furnishing exhibits for some of the garden days. During each of the last three years approximately 100,000 shade and fruit trees were distributed to the public through public school nurseries.

#### THE INFLUENCE OF THE PHILIPPINE PUBLIC SCHOOL SYSTEM IN THE FAR EAST

During the years 1916-17 and 1917-18 the public schools were visited by a large number of delegations from China who studied the school system thoroughly. A commission from Formosa and a number of visitors from Japan showed much interest in Philippine public schools. Constant requests were received for publications from such countries as China, Siam, India, Egypt, Burma, Hawaii, Japan, Chosen, French Indo-China, Ceylon, Cuba, Porto Rico, Hayti, Australia, Straits Settlements, Federated Malay States, Papua, Java, Sumatra, Formosa, Newfoundland, Chile, New Zealand, and Fiji.

During this period Filipino teachers started rendering service in foreign countries. Two industrial teachers were sent to Guam to undertake the development of industrial instruction there along the same lines followed in the Philippines. A Filipino teacher of industrial work, who was furnished the Government of the Federated Malay States, made good in the Malay Training College for Teachers at Malacca. Two Filipino teachers were employed as instructors in English in the mission schools of Penang.

TABLE NO. 67.—*Public expenditures for education from 1908–1917.*

[Source: Annual Reports of the Director of Education.]

Fiscal year ending—	State expenditures.				Voluntary contributions. <sup>a</sup>	Per capita expenditure on education.
	Insular.	Provincial.	Municipal.	Total.		
June 30—						
1908.....	P3,402,119.59	P216,955.80	P1,508,041.80	P5,127,117.19	-----	P0.6877
1909.....	3,847,157.59	228,691.23	1,672,148.50	5,747,997.32	-----	0.7586
1910.....	4,056,588.93	285,159.97	2,133,577.91	6,475,326.81	-----	0.8409
1911 <sup>b</sup> .....	3,721,966.49	209,286.64	2,516,460.12	6,447,713.25	-----	0.8238
1912 <sup>b</sup> .....	3,819,750.74	208,157.39	2,325,394.67	6,353,302.80	P174,333.85	0.7987
1913.....	3,868,400.96	183,285.63	2,211,091.36	6,262,777.95	198,544.46	0.7747
December 31—						
1914.....	4,589,733.99	249,351.85	2,455,660.18	7,294,746.02	344,432.63	0.8735
1915 <sup>c</sup> .....	4,905,296.16	472,538.29	2,303,304.34	7,681,138.79	374,982.31	0.8083
1916 <sup>c</sup> .....	4,472,715.98	443,166.96	2,164,813.69	7,080,696.63	349,743.19	0.7334
1917 <sup>c</sup> .....	5,176,788.42	463,843.76	2,394,787.79	8,685,419.97	478,802.61	0.8839

<sup>a</sup> Contribution in the form of land, buildings, labor, and money.<sup>b</sup> Excluding expenditures from Insular funds for school-house construction and for support of government students in Insular Schools.<sup>c</sup> Including expenditures in the Department of Mindanao and Sulu.TABLE NO. 68.—*Roads in existence from 1908 to 1918.*

[Source: Bureau of Public Works.]

Year.	First-class road.	Second-class road.	Third-class road.	Total.	Expenditure for repair of old roads.	Cost of construction of new roads.	Total expenditure for roads.
	Km.	Km.	Km.	Km.			
1908.....	397.0	( <sup>a</sup> )	( <sup>a</sup> )	397.0	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
1909.....	553.5	( <sup>a</sup> )	( <sup>a</sup> )	553.5	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
1910.....	1230.2	1031.3	3337.6	5599.1	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
1911.....	1587.6	1068.9	2956.8	5613.3	P1,119,703.53	P4,551,733.03	P5,671,436.56
1912.....	1839.6	2159.9	3216.8	7216.3	1,415,150.53	4,546,708.14	5,961,858.67
1913.....	2097.3	2034.6	3118.1	7250.0	1,579,104.82	5,370,491.57	6,949,596.39
1913 <sup>b</sup> .....	2233.8	2024.6	3138.7	7397.1	839,981.26	2,840,453.83	3,680,435.09
1914.....	2564.0	2024.3	2875.7	7464.0	1,548,753.85	5,652,436.94	7,201,190.79
1915.....	3067.7	2082.2	3051.7	8201.6	1,827,041.05	5,872,056.81	7,699,097.86
1916.....	3439.6	2045.8	3440.7	8926.1	2,114,534.10	5,920,606.95	8,035,141.05
1917.....	3738.7	2056.6	3348.4	9188.9	2,704,146.60	6,148,213.45	8,852,360.05
1918 <sup>c</sup> .....	3936.0	2019.9	3294.8	9250.7	1,775,839.52	3,969,000.00	5,744,839.52

<sup>a</sup> Data not available.<sup>b</sup> July 1 to December 31, 1913.<sup>c</sup> January 1 to June 30 only.



TABLE No. 69.—*Artesian wells drilled from 1908 to 1917.*

[Source: Bureau of Public Works.]

Year.	Number of successful wells drilled (deep wells).	Average depth of each well in meters.	Average flow per minute of each well in liters.	Total expenditures.
1908.....	8	244.51	92.26	(a)
1909.....	11	148.03	401.44	
1910.....	15	168.35	210.95	P197,820.35
1911.....	17	184.56	294.57	366,916.64
1912.....	41	147.54	193.17	377,903.99
1913.....	92	145.72	178.57	420,841.12
1913 (6 months).....	55	136.75	144.12	174,656.87
1914.....	103	115.52	152.97	284,579.48
1915.....	139	91.40	133.70	289,593.49
1916.....	122	94.39	125.77	234,705.44
1917.....	108	85.94	102.13	219,295.80
Total.....	711	142.06	184.51	2,546,313.18

<sup>a</sup> Data not available.

NOTE.—No report available for the period from January 1, 1918, to June 30, 1918.

TABLE No. 70.—*Postal and telegraph service.*

[Source: Bureau of Posts.]

Year.	Number of postal savings banks.				Number of money order offices.	Number of telegraph offices.	Number of post offices.	Number of municipalities with free delivery service.
	Class 1.	Class 2.	Class 3.	Total.				
1906.....					62	161	475	
1907.....	9	86	140	235			505	* 1
1908.....	12	106	127	245			540	31
1909.....	20	99	132	251	79	162	553	35
1910.....	25	232	36	293	118	211	556	115
1911.....	26	270	118	414	209	238	572	296
1912.....	39	267	131	437	253	270	587	398
1913.....	39	269	129	437	285	293	661	449
1914.....	271	169		439	302	303	685	447
1915.....	304	169		473	311	311	693	451
1916.....	310	74		384	315	314	802	457
1917.....	312	76		388	318	315	818	458

<sup>a</sup> In Manila only.TABLE No. 71.—*Registered Mail Handled.*

[Source: Bureau of Posts.]

Year.	Pieces of mail registered at Philippine offices.	Pieces received from United States.	Pieces received from foreign countries.	Pieces sent to United States.	Pieces sent to foreign countries.	Pieces sent from one Philippine office to another Philippine office.	Pieces handled by Manila post office.
1906.....	245,831	34,443	52,708	39,692	37,687	168,452	297,750
1907.....	280,044	38,585	54,536	46,328	36,588	197,128	331,365
1908.....	346,333	46,006	62,015	47,149	43,935	255,249	373,952
1909.....	379,062	46,614	61,507	55,653	45,579	277,830	398,578
1910.....	434,989	48,283	63,088	61,223	47,124	326,642	434,506
1911.....	510,085	57,729	64,071	66,671	49,080	394,334	577,350
1912.....	535,137	67,151	74,124	73,728	50,284	411,125	633,910
1913.....	617,876	51,031	72,425	72,722	47,143	498,011	650,805
1914.....	644,494	27,738	70,010	72,481	52,972	519,041	647,959
1915.....	641,823	26,295	58,192	71,663	48,126	522,034	611,735
1916.....	719,546	29,440	58,265	81,822	49,484	588,242	662,903
1917.....	814,129	32,657	56,458	93,968	46,598	673,563	(*)

<sup>a</sup> Data not available.

Return to  
BUREAU OF INTERNATIONAL RELATIONS  
University of California

TABLE No. 72.—*Money Order Service.*

[Source: Bureau of Posts.]

Year.	Orders issued payable in the Philippine Islands.			Orders issued payable in the United States and possessions.			Orders of the United States and other countries paid in the Philippine Islands.		Philippine Islands orders paid in the United States and other countries.
	Number.	Amount.	Pesos. Centos.	Number.	Amount.	Pesos. Centos.	Number.	Amount.	
1906	94,261	P3,687,126.81	P16,401.44	(a)	(a)	(a)	(a)	(a)	P2,166,718.66
1907	98,813	3,229,446.09	19,658.59	(a)	(a)	(a)	(a)	(a)	1,262,269.02
1908	107,751	3,645,123.13	21,629.20	(a)	(a)	(a)	(a)	(a)	1,238,566.71
1909	126,148	8,017,355.96	48,515.38	(a)	(a)	(a)	(a)	(a)	2,630,422.00
1910	151,357	9,781,670.48	57,837.86	(a)	(a)	(a)	(a)	(a)	3,727,026.06
1911	191,614	12,265,166.15	70,605.42	68,509	P8,445,591.74	P29,876.26	(a)	(a)	3,489,917.78
1912	160,524	11,184,401.70	50,712.48	68,479	3,556,645.40	31,315.60	8,184	P429,078.94	3,613,435.00
1913	200,653	12,848,999.08	59,891.46	68,157	3,668,084.86	32,713.08	10,236	519,118.14	3,265,816.68
1914	254,880	14,880,007.02	72,685.42	70,683	3,804,714.06	33,389.92	10,448	547,852.74	3,846,930.66
1915	285,057	16,453,467.04	79,178.16	68,854	3,547,553.52	31,380.06	11,237	537,233.62	4,245,414.02
1916	334,066	16,996,113.80	86,931.40	68,186	3,248,324.26	30,735.12	12,325	621,506.54	2,977,719.40
1917	381,874	22,487,134.52	105,690.24	66,963	2,754,890.38	25,964.48	13,744	726,704.86	2,438,460.14

\* No data available.

TABLE NO. 73.—*Meteorological data for Manila Central Observatory.*

[Source: Weather Bureau.]

Year.	Pres- sure (mean)	Air temperature.			Relative humid- ity (mean)	Vapor pres- sure (mean)	Evap- oration free expos- ure (mean)	Wind velocity (mean)	Cloud amount (mean)	Sunshine (total)	Rain- fall (total)
		Mean.	Mean.								
			Maxi- mum.	Mini- mum.							
	<i>mm.</i>	<i>°C.</i>	<i>°C.</i>	<i>°C.</i>	<i>Per. ct.</i>	<i>mm.</i>	<i>mm.</i>	<i>Km.</i>	<i>0-10.</i>	<i>h. m.</i>	<i>mm.</i>
1900-----	59.22	27.3	31.6	23.0	79.6	21.2	( <sup>a</sup> )	7,414.4	6.0	2,556 49	2,125.7
1901-----	59.13	26.9	31.2	22.3	79.4	20.8	( <sup>a</sup> )	7,186.6	6.4	2,309 45	1,851.7
1902-----	59.32	26.7	31.0	21.9	78.8	20.4	( <sup>a</sup> )	7,250.5	6.1	2,291 30	1,716.7
1903-----	59.18	27.2	31.8	22.0	74.8	19.9	( <sup>a</sup> )	6,728.2	6.5	2,244 50	1,030.4
1904-----	58.69	26.1	31.0	21.8	79.5	19.9	( <sup>a</sup> )	6,244.3	7.2	2,183 20	2,136.8
1905-----	59.46	26.4	31.7	21.4	79.6	20.1	( <sup>a</sup> )	6,399.9	6.3	2,410 35	1,825.0
1906-----	58.72	26.9	31.8	21.8	79.9	20.8	( <sup>a</sup> )	6,483.0	6.7	2,379 20	2,270.5
1907-----	58.71	26.4	31.4	21.9	79.2	20.0	( <sup>a</sup> )	6,479.6	6.8	2,315 50	1,840.8
1908-----	58.67	26.2	31.4	22.0	80.8	20.1	( <sup>a</sup> )	6,550.4	6.9	2,061 55	2,481.0
1909-----	58.54	26.4	31.7	22.3	79.5	20.2	( <sup>a</sup> )	6,188.4	6.8	<sup>b</sup> 1,793 05	1,836.7
1910-----	58.58	26.2	31.7	22.4	80.8	20.2	99.8	5,539.0	7.1	1,971 00	1,921.7
1911-----	58.93	26.1	31.9	21.9	79.5	19.8	107.2	6,695.0	6.6	2,138 15	1,717.6
1912-----	59.20	26.6	32.5	22.4	77.4	19.7	128.6	6,502.2	6.5	2,076 00	1,934.1
1913-----	59.20	26.2	31.9	22.3	80.0	20.0	106.2	5,955.6	6.8	1,943 00	1,921.3
1914-----	59.67	26.3	37.4	22.2	78.3	19.7	126.0	6,299.7	5.9	2,288 01	2,435.1
1915-----	58.92	26.9	32.6	22.9	79.0	20.6	126.0	5,836.4	6.3	2,123 15	1,914.9
1916-----	58.14	26.2	31.5	22.6	81.6	20.5	99.5	5,431.5	6.9	1,865 25	1,642.4
1917-----	58.46	26.3	36.0	22.6	82.2	20.6	95.5	5,289.2	7.3	1,861 40	2,329.4
1918 <sup>c</sup> -----	59.38	25.7	31.5	21.1	75.8	18.5	134.7	5,602.7	6.2	1,043 50	351.0

<sup>a</sup> No data available.<sup>b</sup> For eleven months only.<sup>c</sup> January 1 to June 30 only.

# THE CLIMATE OF THE PHILIPPINES

By Rev. JOSÉ ALGUÉ, S. J., *Director of Weather Bureau.*

As the climate of a country is the complex of the average of the atmospheric conditions which have an influence upon organic life an adequate study of the different elements which go to make up these atmospheric conditions in the Philippines would give a true idea of its climate.

The more important elements which form the climate may be reduced to three, viz, heat or temperature; water vapor in its different forms, such as humidity, evaporation, clouds, and precipitation; and finally, the movement or circulation of the atmosphere, which includes the direction and force of the wind, cyclonic and noncyclonic storms, together with local and general storms. Atmospheric pressure is not, properly speaking, a climatological element, but, as it serves as an indication of the general variations of the climatological elements, strictly so called, a few words will be said occasionally on it, in so far as it has any relation to the above-mentioned elements.

The Philippine Archipelago is situated in the Torrid zone or within the Tropics. The climate is, therefore, generally speaking, tropical, although there are points in the islands where it can not strictly be so termed. The exceptions are due to the fact that there are so many causes which influence the climatological conditions of the Archipelago, so that the different islands, and even different parts of the same island, have meteorological values so unlike that they possess climates entirely distinct. Not only does the latitude affect the climate, as the name "climate" itself seems to indicate,<sup>1</sup> but also the altitude, the relative distribution of land and sea, the size and configuration of the island, the proximity of mountain ranges, the composition of the soil, the vegetation, the ocean currents—especially those in the straits and the channels—in fine, all those causes which can in any way modify the climatological elements already mentioned.

Before speaking of these elements we propose to say a few words concerning the effects of each of the above causes in the different regions of the Archipelago.

---

<sup>1</sup> In its original and stricter etymological meaning the word climate (Greek *κλίμα*, slope or inclination) was applied to one of a series of regions or zones of the earth running parallel to the equator, from which the earth's surface was supposed to slope to the poles, hence the Latin rendering of *κλίμα*, *inclinatio coeli*.

*Latitude.*—Of all the causes mentioned above which have influence on the climatological elements perhaps the relative latitude has the least influence of all. For example, Zamboanga, in Mindanao, and Aparri, in Luzon, are separated from one another by more than eleven degrees of latitude, but although Zamboanga is much nearer to the equator than Aparri, it enjoys a climate quite as mild as that of Aparri, which is at the extreme north of Luzon. The same may be said of Jolo, Davao, Dapitan, and other towns of Mindanao in comparison with those of the north of Luzon.

We can illustrate these facts by stating that the highest recorded temperature for seven years in Jolo, latitude  $6^{\circ} 3' N$  is  $36.5^{\circ} C$ . and for 8 years in Aparri, latitude  $18^{\circ} 20' N$   $27.8^{\circ} C$ . Besides the yearly mean maximum temperature for the same period is  $30.6^{\circ} C$ . in Jolo and  $30.2^{\circ} C$ . in Aparri, and the average mean temperature of the hottest month is  $26.8^{\circ} C$ . in Jolo and  $28^{\circ} C$ . in Aparri, and finally the yearly mean minimum temperature is  $22.6^{\circ} C$ . for Aparri and  $22.8^{\circ} C$ . for Jolo.

*Altitude.*—Altitude has a great influence on temperature, humidity, and direction of the winds in the islands. This may be observed by comparing the climate of the relatively high Baguio with that of the plain of Pampanga. Many other examples of the influence which altitude has on the climate might be cited, such as the towns surrounding Lake Lanao, the altitude of which is 2,200 feet above the level of the sea, compared with the climate of the lowlands around Iligan Bay; the climate of the highlands of Abra, Lepanto, and Bontoc, with that of the Cagayan valley; the climate of the rising land all along the ridge which runs from the river Pansipit to its western slope, with the plain of Balayan, although this rising ground is only 300 feet above the level of the sea.

*Distribution of land and sea.*—The Archipelago is situated between the Pacific ocean and the China sea, at a distance of some 500 miles from the Asiatic continent and about 1,000 miles from Australia. On one side of the Archipelago is the lower limit of an immense area of high pressure which is caused by the cooling off of the air in the interior of the continent, and on the other is the western limit of the enormous area of high pressure situated in the Pacific. The first area of high pressure slowly changes its position during the course of the year from east to west and from west to east between the parallels  $30^{\circ}$  and  $40^{\circ}$  north. During the winter months the center of the Siberian high pressure area lends force to the polar wind currents, as well as to the northeast monsoon. The permanent

center of the Pacific high pressure area, on the other land, has some influence on the predominance of the east and the south-east winds, especially at the period when the monsoon dies away. It is also very probable that the distribution of land and sea in this part of the Far East is the principal cause of the non-existence of the southwest monsoon in the Archipelago, although it blows in the Indian ocean. We have had occasion to speak of this fact in other publications, where we have proved the nonexistence of this monsoon in the Philippines.

*Size, configuration, and orientation of the islands.*—The climatological conditions of the eastern coasts of the larger islands of the Archipelago, such as Luzon, Mindanao, Panay, Mindoro, Samar, and Leyte, are quite different from those of the interior and western coast of these islands. This is especially the case if the islands extend from east to west, as with Mindanao, Panay, and Mindoro. If, on the other hand, the islands are not very broad and are prolonged in the direction north-south, as are the Islands Cebu and Paragua, then the difference is not so great, while if the islands are narrow, like Tablas, Dinagat, Ticao, and Burias, there is scarcely any difference between the climate of the interior and that of the eastern and western coasts, no matter what be the general direction of their prolongation. The climate of the smaller islands does not suffer any modification on account of the land, but is generally that of the region they occupy; thus, for example, Capul, Viri, Laguan, and Siargao have the general climatological conditions of the east of the Archipelago, and the Islands of Corregidor, Lubang, and Calamian, those of the western coast of the Archipelago.

*The proximity of mountain ranges.*—Mountain ranges influence the climate of a country by protecting the lower plains from the strong winds. Thus the Suñgay range protects the fertile lands of Cavite from the destructive effects of the south and southwest winds. Manila is shielded from the strong southeast winds by the Tayabas hills, and the Mountains Maquiling and Banajao. Again it is owing to the Zambales hills that the climate of the eastern slope and the Plains of Pangasinan, Tarlac, and Pampanga is so different from that of the Province of Zambales.

The well-known Province of Benguet owes its salubrious climate and its abundant rainfall in July and August in great part to the fact that there is no high land on the east and south. The prevailing winds during the months of March, April, May, and June, on the table-land of Baguio, are from the west and the west-southwest. These winds bring with them the aqueous vapor with which they are saturated, and thus cause

a moderate rainfall during May and June, which diminishes the temperature much more than could be expected from the height alone. Thus the same cause which helps to cool the lowlying plains in the western part of the Archipelago during the months of June, July, and August, also contributes to the tempering of the heat in Baguio during the months of March, April, May, and June.<sup>1</sup>

*Composition of the soil.*—The geological constitution of the soil is one of the circumstances which has the least influence on the climate, still it has some influence, for, as the radiation and even the colorific capacity is quite distinct in different soils, it follows that these two factors modify to some degree the general conditions of the climate. Thus, all other conditions being the same, the temperature of sandy soil will be different from that of clayey soil, which in turn will be distinct from the temperature of the rocky or of soft soil. For this reason there is a considerable contrast between the temperature of Cavite and that of Marilao in the Bulacan Plain, and between that of Manila and of Biñang in the Province of La Laguna, both of which places are situated at but a small height above the level of the sea.

*Vegetation.*—In saying that the vegetation of a country has some influence on the climate, we mean it to be taken in the sense of amount of vegetation or the amount of land covered by vegetation. Vegetation in general has a very direct influence on the condensation of aqueous vapor as well as on the radiation of heat, and consequently can modify in a very notable degree the climatological conditions. The two principal elements which it modifies are the rainfall and the temperature; thus, for example, these two elements have somewhat different values in Atimonan, Daet, and Albay, owing doubtless to the conditions of vegetation in these regions.

*The general ocean currents.*—If we look at a map of the isotherms of the world it will be seen that in many places they are irregular, and depart greatly from the east and west course which we would naturally expect them to follow. The reason for this variation is to be found in the course of the great ocean currents which cause the interchange of ocean waters between the equator and the poles, and thus cool or warm the surrounding land. There are two general currents which affect the zone of the Archipelago. The one which extends from latitude 5° N. to 10° N. has great influence on the temperature of the Archipelago of Jolo and the whole of the south coast of

---

<sup>1</sup> See "Climate of Baguio, Benguet," pp. 64–71.

Mindanao. The other current, which in some respects is like the Gulf Stream, but much greater, comes from the east in the Pacific and extends from close to latitude  $10^{\circ}$  N. as far as the northern extremity of the Tropics, that is, as far as  $23^{\circ}$  N. This immense current inclines to the north on reaching the Archipelago and then curves to the south of Japan and flows on from there to the east. As this current brings cool water, it tempers the heat of the eastern coasts, especially during the hot months, when the influence of the north monsoon has become a minimum—that is to say, during the month of March, April, and May, during which months it is very probable that this current also contributes to the prevalence of the winds from the second quadrant.

*Special currents in the straits and channels.*—Beside the general ocean currents, of which we have spoken above, there are smaller currents in the straits, and channels between islands, which are in part caused by the general currents. These small currents have much influence on the climate, as is shown by the climate of Zamboanga and the Island of Basilan, which is modified by the currents of the Basilan Channel. Again, the climate of Aparri and the Batanes are influenced by the currents in the Balintang and the Bashi Channels, and the peninsula of Sorsogon and the north coast of Samar by the currents in the San Bernardino Strait.

Accordingly, as these causes, either individually or in various combinations, affect the different regions of the Archipelago, the climates of these regions have different characteristics. These it is the aim of this paper to group and classify.

Leaving aside the minor modifications of climate and taken only into consideration wind currents and the precipitation we may consider three kinds of climate prevailing over the whole Filipino group of islands.

In fact the difference of climatic conditions of the different parts of the Archipelago depends mostly on the local currents as a combined resultant of the general winds, position and size of the islands, and the storm center.

Generally speaking, we may assume that the resultant direction of these current in the Philippines is from north to east during the period October to January, from east to southeast from February to April, and for the rest of the year southerly directions ranging from southeast to southwest predominate, due chiefly to storm centers. We may add that such currents are the principal cause of the distribution of rain, which constitutes a very important factor of climate. We may further add that as the result of long experience it may be stated that,



in the Philippines, currents from northwest to west and southwest are generally either cyclonic or of cyclonic origin.<sup>2</sup> Hence, for the purpose of classification we shall divide, the whole group of islands into regions directly influenced by northeasterly and easterly currents and regions not directly influenced by such currents. The climatic conditions observed in the first regions will constitute the first type of climate in the Philippines. The climatic conditions in the other regions will make the second type of climate in the Philippines. Besides, there are regions in the Philippines which are only in part affected by northeasterly and easterly currents and the climatic conditions of such regions may form another type of climate which we shall call intermediate climate.

There are, consequently, in the Philippines three types of climatic conditions which we may formulate as follows:

1. Climatic conditions over the small islands or portions of large islands at or near the sea level, below 80 meters of altitude, freely exposed to air currents from north to east or southeast and not distant from the Pacific Ocean.

2. Climatic conditions over the small islands or portions of large islands at or near the sea level not freely exposed to currents from north to east or southeast and distant from the Pacific Ocean.

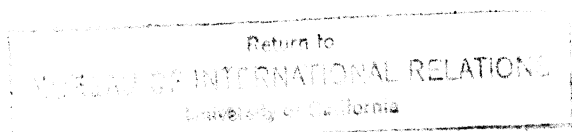
3. Climatic conditions over the small islands or over portions of large islands only partly exposed to northeasterly and easterly currents, or, if exposed to such currents, distant from the Pacific Ocean.

Mountain climates may form another type of climate, but they can be reduced to some of the above types as far as some meteorological or climatological elements are concerned, except temperature which decreases with the altitude, and rain which increases with height, generally. Thus the climate of Baguio, Benguet, may be classified as of the second type, with lower temperature; the climate of Bontoc belongs also to the second type; the climate of the high plateaus in the Tayabas Province belong either to the first or to the intermediate type, with milder temperature; and, finally, the high Plateaus in Mindanao, in the Misamis and Moro Provinces belong to the third or intermediate type, with lower temperature.

The distribution of rainfall being in the tropics almost the controller of climate, I give first the average monthly precipitation in millimeters for each type of climate.

---

<sup>2</sup> See "The cyclones of the Far East," p. 124 et seq.



	January.	Feb- ruary.	March.	April.	May.	June.	July.	August.	Sep- tember.	October.	No- vember.	De- cember.	Total
First type.....	<i>mm.</i> 246.3	<i>mm.</i> 228.5	<i>mm.</i> 157.6	<i>mm.</i> 139.4	<i>mm.</i> 150.8	<i>mm.</i> 166.0	<i>mm.</i> 249.3	<i>mm.</i> 167.0	<i>mm.</i> 235.6	<i>mm.</i> 236.8	<i>mm.</i> 350.9	<i>mm.</i> 387.9	<i>mm.</i> 2,766.1
Second type.....	13.1	8.8	12.8	40.2	191.9	334.4	567.3	495.0	455.3	206.1	80.3	48.2	2,453.4
Third type.....	80.7	73.0	53.4	72.4	133.6	179.4	243.7	192.8	227.8	242.4	203.2	151.7	1,856

## FIRST TYPE

The features of the climatic conditions of the first type are:

I. There is practically no dry season in this type of climate. The greatest amount of rain falls generally in December and January during the prevalence of northeasterly winds. In regions south of parallel  $10^{\circ}$  N., where the winds from west to south can not attain or do not attain usually great force or frequency, the rain, during the so-called typhoon season, is less abundant than during the prevalence of northeasterly or easterly winds in December, January, February, and March. The result is that there is generally an average rainfall for the year less in regions south of parallel  $10^{\circ}$  N.

II. The percentage of the rainfall from October to February is nearly 50 per cent of the annual rainfall, and the percentage of rainfall from June to October never reaches 50 per cent of the rainfall for the whole year, especially in regions south of parallel  $10^{\circ}$  N.

III. Cloudiness follows the distribution of rain. December and January, cloudy and rainy; the clearest months being April and May.

IV. The relative humidity has small range during the year, the percentage increases gradually from September to December. Mean percentage for the whole year less than 85 per cent.

V. The temperature of the Archipelago may be classified as of three kinds—high, intermediate, and mild. Regions of high temperature have a mean annual temperature greater than  $27^{\circ}$ ; those of intermediate temperature have an annual mean of less than  $27^{\circ}$ ; and in regions of mild temperature the average yearly mean is less than  $26^{\circ}$ . Now, in regions of the first type of climatic conditions the mean annual temperature never exceeds  $27^{\circ}$  and consequently they enjoy either an intermediate or mild temperature.

## FIRST TYPE

## RÉSUMÉ

Rainfall.....	{	Heaviest.....	November, December, January, February.
		Regular.....	July, August, September, October.
		Mildest.....	March, April, May, June.
		Total yearly,	2,766 mm.
		No dry season.	

*Humidity.*—Small range of humidity, 78–88.

*Temperature.*—Average less than  $27^{\circ}$  centigrade.

The regions which enjoy the climatic conditions of the first type are:

The southeast end of Luzon or the Provinces of Albay and Sorsogon.

The Province of Ambos Camarines and adjacent islands.

The Island of Catanduanes.

The eastern coast of Luzon from the seashore to the range of mountains in the Province of Tayabas, eastern Isabela, and the eastern Cagayan.

The northern and eastern coast of Samar and adjacent islands.

The San Bernardino Strait and adjacent islands.

The eastern coast of Leyte and adjacent islands.

Dinagat and Siargao and adjacent islands.

The small islands on the interisland sea between Panay and Luzon east of longitude  $122^{\circ}$  E. (south of parallel  $10^{\circ}$  N.) The peninsula of Surigao to the mouth of Agusan River.

The eastern coast of Mindanao and the great valley of the Agusan River.

On the northern coast of Mindanao, the most northern parts of Misamis Province, and adjacent islands.

All these regions are easily accessible to wet currents direct from the Pacific.

## SECOND TYPE

The characteristics of the climatic conditions of the second type are:

I. There is distinct wet and dry season in this type, the dry lasting generally from the end of November to March.

II. The percentage of rainfall during the months from June to October, popularly called the "rainy season," is at least 76 per cent of the total precipitation of the year, while the rainfall from November to February never exceeds 12 per cent of the total average. May and April are apt to have more precipitation than the dry months, owing to electric storms, and occasionally, especially in May, to cyclones.

III. Amount of clouds follows precipitation or rather shows the average precipitation. Clearest months from January to April, cloudiest months September, August, and July.

IV. The annual percentage of humidity is not very high owing to the influence and duration of the dry season. Annual percentage is not more than 80 per cent. The range of the monthly percentage is considerably greater, while the average for the year is less than in regions of the first type.

V. The temperature in these regions is either high or intermediate, seldom or never mild, according to the classification made above.

## SECOND TYPE

## RÉSUMÉ

	Heaviest.....	June, July, August, September, October.
	Regular.....	November, December, April, May.
Rainfall.....	Mildest.....	January, February, March.
	Total yearly,	2,453 mm.
	Very distinct wet and dry season.	
	<i>Humidity.</i> —Large range, 70–86.	
	<i>Temperature.</i> —Around 27° centigrade.	

The regions which enjoy the climatic conditions of the second type are:

The western coast of Luzon from Cape Bojeador to Cape Santiago or the Provinces of Ilocos Norte, Ilocos Sur, Union, Zambales, Bataan, and Batangas.

The Provinces of Rizal, western Bulacan, Pampanga, Nueva Ecija, Tarlac, and Pangasinan, the Lingayen Gulf, and adjacent islands.

The western coast of Mindoro and adjacent islands.

The western coast of Panay.

The islands in the north Sulu Sea and north of Paragua.

The Palawan and adjacent islands.

These regions are far distant from the Pacific Ocean or they do not get the influence of the currents from that ocean except through considerable portions of land.

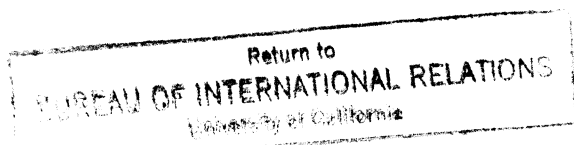
## THIRD TYPE

The characteristics of the climatic conditions of the third type are:

I. There is a short period of dry season in the regions of this type, lasting one or two months, generally between January and April, according to the more or less prevalence of wet easterly currents over the place, controlled mostly by the distance from the Pacific. We may consider as dry a month with less than 50 mm. rainfall. Average total rainfall for the year is less than 2,000 mm.

II. The percentage of rainfall from November to February is less than 20 per cent of the total precipitation for the year. Percentage for the months of June to October very seldom exceeds 60 per cent.

III. Cloudiness follows the amount of rain, which seems to be uniform during the year except for a short period of less rain; so that the clearest month is, as an average, the least rainy month. The average amount of clouds is less than over the regions of the first type.



IV. The relative humidity is lower than the regions of this type south of Luzon. However, the average percentage of each month oscillates in the same manner as the rain.

V. The temperature in this type is generally intermediate on the seashores and high inland where, of course, the altitude above the sea level is below 80 meters. It is mild in the most northerly regions, as in the Batanes and Babuyan Islands and in northern Luzon on the seashore, as Aparri, and also over the small islands of that type, south, as Jolo, and along the seashores benefited by the straits' currents, as Isabela of Basilan, Zamboanga, and Surigao; finally on the western coasts of Samar and Leyte.

### THIRD TYPE

#### RÉSUMÉ

Rainfall.....	{	Heaviest.....	July, August, September, October, November.
		Regular.....	May, June, December, January.
		Mildest.....	February, March, April.
		Total yearly,	1,856 mm.
		Short period of dry season,	January–April.

*Humidity.*—Very small range, 74–79.

*Temperature.*—Around 26° centigrade.

The regions which enjoy the climatic conditions of the third type are:

The Batanes and Babuyan groups.

The extreme north of Luzon.

The Cagayan Valley of Luzon with the slopes east of the Sierra Madre down to Caraballo Sur.

Shores around the Laguna Bay.

Masbate and the islands of the interisland seas.

The northern and eastern coast of Panay.

The islands of Negros, Cebu, and Bohol.

The Gulf of Davao.

The western coast of Mindanao and the south end of the Zamboanga Peninsula. The banks along the Pulangui or great Mindanao River.

These regions are somewhat distant from the Pacific Ocean, and if they are exposed to currents from northeast or east, these currents are modified by the influence of intermediate islands and are not so apt to bring condensation or precipitation.

*Climates and agriculture.*—The difference of the distribution of rainfall in the various parts of the Archipelago which constitutes the basis for the division of climates in the Philippines is also the principal factor in the diversity of the agricultural products which are or may be obtained in the islands. By taking

advantage of the natural resources only, some products can be obtained more advantageously in some parts than in others; but by making use of artificial means of irrigation, it is possible to obtain practically all tropical products in one and the same region because the influence of the tropical temperature is uniform enough in all the islands, while the distribution of rain varies greatly in the different epochs of the year and even from year to year in one and same region.

Products such as hemp (abacá), which require a uniform distribution of rain throughout the year without a dry season, grow well in the regions of the first type. Products such as sugar, tobacco, coffee, and cacao, which can resist a short dry season, may be grown with advantage in the regions which have the third type of climate; tobacco can also be grown in the regions of the second type, if the dry season is not of long duration, while with the aid of artificial irrigation the principal products like sugar, tobacco, coffee, and cacao may be obtained in regions of the second type.

Rice may be and, as a matter of fact, is grown in all the types of climate or in all the islands; it also does very well, especially by duplicating the crops, in regions of the third type and in the other types the crops may be increased by irrigation.

Coconuts do well in all the types of climate, but especially in the first and third.

Apart from this, the variety of the products may be greatly increased in the highlands and even nontropical fruits may be harvested, except fruits such as apples, pears, prunes, etc., which do not bear fruit abundantly because in all three types of climate there are periods which have an amount of rain in excess of what these plants can bear.

Hence, the highlands of Abra, Bontoc, Benguet, and Tayabas in Luzon, of Mindoro, the tablelands of Bukidnon, of the high Agusan, Pulangui, and Lanao, and of the Lakes Siguasan, Butuan, and Cebu, recently discovered, are excellent for a great variety of tropical and nontropical agricultural products.

#### CLIMATE AND HEALTH

The variety of climate in the Philippines may be beneficial to suit different conditions of health. Thus the dry season of the second type gives chance for mild temperature and even relatively cool weather which may be comfortable and very pleasant to visitors from the temperate zone who may enjoy the benefits of a very moderate climate and avoid the rigor and severity of the winter outside of the tropic because the dry season in the second type prevails from November to the end

of March or during the winter in the northern hemisphere. Besides, the first type of climate gives all through the year a temperature which we classified as intermediate of mild, so the regions on this kind of climate are relatively agreeable and comfortable to live on. Generally speaking, in all kinds of climate in the Philippines life becomes less comfortable during the months in which rain mostly prevails as it can be seen in the table of rainfall given in the beginning of these notes. It is a matter of fact, as I have pointed out, that the precipitation or rainfall is the mean factor which makes life more or less comfortable in the lowlands or below 80 meters of altitude in the Philippines. But the factor which changes altogether the conditions of climate in relation to health is the altitude, as it has already been stated.

The first effect of the altitude above the sea level is the diminution of temperature. Experience has shown that the average diminution of temperature is  $1^{\circ}$  °C. for every 165 meters of altitude above the sea level. Hence the average difference of temperature between Baguio (1,500 meters) above the sea level and Manila is  $9^{\circ}$  °C. The other highlands in the Philippines are subject to the same rate of diminution of temperature with altitude. The other elements of climate are not so decidedly affected by altitude as temperature and the general features of the type of climate, according to the regions in which they are situated, are generally kept. Therefore Baguio, for instance, has the second type of climate with lowest temperature and more abundant rain.

Practically all the highlands in the Philippines are comfortable to live on especially if they are in regions of the second and third types and in proportion to altitude. As instances we can mention the highlands of Rizal, such as Antipolo, Bosoboso, etc., the highlands of Tayabas, Dolores, Lucban, Sariyaya, etc., the highlands of Batangas south of Taal Lake, the highlands of the northern slope of the mountain chain of Cavite Province, such as Silang, Imus, Dasmariñas, Amadeo, etc., the highlands of Abra, Lepanto and Bontoc, the highlands of Bukidnon, Mindanao and the lands around Lake Lanao, especially the region of Camp Keithley, the highlands near the banks of the Pulangui or Great River of Mindanao, and the lands around lake Liguasan, Butuan and Cebu recently discovered in a state of exploration. But, by far, the most important health resorts in the Philippines are the plateaus of Baguio approximately 5,000 feet above sea level and about 175 miles from Manila most of which distance is covered by railroad and the rest by autos.



Medical reports are constantly praising the beneficial conditions of the Baguio climate. Colonel William H. Arthur writes:

"Experience has shown that a large number of cases of disease or injury, or patients convalescing from surgical operations, recover much more rapidly in the cool mountain climate of Baguio than in the depressing heat and humidity of the plains. Before the establishment of this mountain refuge from the heat of the plains, many cases of this class were transferred to the United States that are now brought back to health at Camp John Hay and Camp Keithley. The beneficial effect of the change in climate is particularly noticeable in people who have become run down after one or more hot seasons spent at the lower levels.

"The great value of a refuge in the mountains from the effect of prolonged heat is shown in medical reports, which indicate the classes of cases especially benefited, but there are a great many others not reported and not actually sick but whose vitality and resistance are more or less diminished and who find great benefit from an occasional sojourn in the mountains of Benguet or the highlands of Mindanao, especially during the hottest part of the year."

