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Research Note

FRANCIS A. GEALOGO

Counting People Nineteenth-Century Population History of Four Manila *Arrabales* Using the *Planes de Almas*

Along with profound social and political transformation, the *arrabales* (suburbs) of Intramuros, Manila, also underwent significant demographic changes during the nineteenth century as indicated by population growth, urbanization, rising population density, and changes in death, birth, and marriage rates. This paper utilizes quantitative data from the *Planes de Almas*, the numerical summaries of population data of different parishes found in the Archdiocesan Archives of Manila, to analyze the population history of these suburbs. These data concern burials, baptisms, and marriages, as well as reports on taxation and the confessional status of inhabitants.

KEYWORDS: DEMOGRAPHIC HISTORY · URBAN POPULATION HISTORY · SPANISH COLONIALISM

Since the publication of the landmark works of Wrigley (1966, 1969), Henry (1968), and Hollingsworth (1968, 1969), studies on demographic history have made major strides. In the Philippines, Smith (1971, 1975, 1978), Doeppers and Xenos (1998), Owen (1987c), Cullinane (1998), Corpuz (1989, 1997), and many others have pioneered and expanded the horizon of demographic history by bringing to the fore the application of demographic techniques to a number of Philippine archival materials. In the field of urban history, particularly the colonial history of urban Manila, Camagay (1982, 1992), Reed (1978), Doeppers, (1972, 1974, 1984, 1998a, 1998b, 1998c), and Medina (1994) have applied various techniques of historical analysis, with remarkable emphasis on population history and demographic history.

These studies have proved instrumental in rediscovering new sources found in the rich collections of Philippine parish archives and the many repositories of historical documents found in different collections in the country. The essays by Cullinane (1998) and Doeppers (1998c), for instance, have highlighted the rich potential of the field as remarkably comparable to studies based on sources found in other countries (Wrigley 1966; Xenos 1989; Willigan and Lynch 1982; Henry 1968; Hollingsworth 1968, 1969). Studies using Philippine materials readily available in the archives have been utilized to explain a number of historical issues relevant to population conditions of the past, particularly those related to fertility (Smith 1975), mortality (Smith 1978; Owen 1987a, 1987b), family formation (Ng 1979), household composition and family composition (Gealogo 1995; Ng 1979), and migration (Doeppers 1998a).

Parish Records as Data Sources

Various other sources can also be used in the study of Philippine demographic history. The parishes usually maintained *Libros de bautismos* (parish baptismal registers), *Libros de entierros/difuntos* (parish registers of burial blessings), and *Libros de matrimonios* (parish marriage registers) to record Catholic events of baptisms, internments, and marriages—information that can be translated easily into events indicating fertility, mortality, and nuptiality, respectively. While these categories do not present perfect synchronicity of occurrence (i.e., a baptismal ceremony could occur at a date different from the date of birth, and the date of internment could be different from the date of death), studies show that in most of the cases the

difference involved a matter of days only (Gealogo 1995; Ng 1979). In most established parishes, most children were baptized less than a week after their birth, and internments were held within a week of the individual's death. In other parishes, however, these patterns did not necessarily apply. These parishes included those with a significant number of non-Christian migrants (especially Chinese) who were being converted to Catholicism; peripheral, newly established colonial settlements where a number of *infieles* (non-Christian “infidels”) were being converted to Christianity; or areas where a number of unrecorded, undocumented inhabitants who were not integrated within the organized municipalities had escaped the state's enumeration and recording and therefore not incorporated in the parish registers. Those that eluded the registers were labeled as *remontados* (literally, those who had gone to the mountains), *cimmarones* (“wild”), *malhechores* (“evildoers”), *infieles* (infidels), *salvajes* (“savages”), or simply *indocumentados* (undocumented/unregistered) (cf. Gealogo 1994).

Aside from the various *Libros* found in parish archives, a systematic tabulation of the vital events recorded in these books, along with other information about the parishes, were normally transmitted annually to the religious superiors of the parish priests. During the nineteenth century, it was observed that there were significant improvements in recordkeeping by the parishes occurring simultaneously with the state's realization of the need to utilize these parish records to implement bureaucratic reforms and systematize state functions connected with recordkeeping (Cullinane 1998, 300). These led to the increasing reliability of the tabulations coming from the parishes. Called *Planes de almas* (literally, plan or map of souls), these reports included information on the total population of the parish for the year; the total number of baptismal, burial, and marriage ceremonies performed and recorded; and, in several instances, additional information such as the number of tribute payments collected; the number of exempted classes due to illness, age, and elite status; the number of Indios, Spaniards, Chinese, and *mestizos de sangley* (Chinese mestizos) in the population; and the number of children from birth to age 6 (*parvulos*), and single men and single women at age of confession (*solteros/solteras de solo confesion*—a boy or girl who has made his or her first confession but has not yet taken communion, generally between the ages of 7 and 11) and age of communion (*solteros/solteras de communion*—generally a man between 12 and 18 and a woman between 12 and 20 years of age) (Doeppers and Xenos 1998, 381, 382).

These *Planes de almas* were sometimes compiled and published in statistical books, generally called *Estados generales* (general list or account), *Estado general de almas* (general accounting of souls), or *Estados de almas* (accounting of souls), some published by the religious orders while others by the colonial government. The data in the *Estados* were usually based on the *Planes*, reporting data that were compiled a year or two after the release of the *Planes*.

Examples of these aggregated annual summaries were the following: *Estado de la poblacion de las yslas Filipinas correspondiente el año de 1817/1818* (1819/1820); *Estado general y estadística de los Ministerios y Misiones* (1831); *Estado de las Islas Filipinas en 1842* (1843); *Estadística de la Provincia de S. Nicolas de Tolentino de PP Agustinos Recoletos de Filipinas* (1851); *Estado general de los pueblos del Arzobispado de Manila, y de los obispos de sufraganeos de Nueva Caceres, Nueva Segovia, Cebu y Jaro* (1886); *Estado general de los religiosos de la provincial del santísimo nombre de Jesus de Agustinos calzados* (1888); and *Estado general de los religiosos existentes en los conventos, colegios, las parroquias y misiones de la provincia de Agustinos del santísimo nombre de Jesus* (1897).

Aside from the *Estados*, guidebooks for travelers, foreign investors, and diplomatic missions were also published under the general classification of the *Guia oficial* (1884, 1886, 1892, 1895) and the *Guia de forasteros para el año 1842* and a similar *Guia* for 1844, to cite a few examples. These materials also included data on total population and some information on the conditions of the local population; at times tabulations of data on births, deaths, and marriages across historical time were also included.

Published data on Philippine population can also yield significant information on various population conditions in different localities, including those by Beyer (1917), Blas de la Asunción (1910), Buzeta (1850), Canovas (1859), Cavada y Mendez de Vigo (1876), Comyn (1810), Diaz Valero (1897), Huerta (1855, 1865), Jimeno (1884), Martin (1848), Montero y Vidal (1886), and the first *Census of the Philippine Islands* under the Philippine Commission (1905).

Caution must be made, however, in utilizing the data found in these materials. Some of these obviously present some real challenges to the population historian, particularly concerning the reliability of the reports, the duplication of the entries, and the misreporting of the actual date when the count was made. As a general note, the *Planes de almas* normally reported

data collected during the previous year, with the *Estados*, *Guías*, and other published materials generally providing data collected two to four years previously. For example, the events reported in the *Planes de almas* of 1848 were published and indicated in the printed sources as having occurred in 1851 or 1852. Therefore, crosschecking and verifying entries in these sources can be extremely labor intensive and difficult. Moreover, because the tabulated data from most other sources were culled primarily from the *Planes de almas*, it is but logical to give more weight and credibility to data sets generated directly from these sources in the *Planes* compared with other possible sources such as the *Guías* or the *Estados generales*. For this study the verified entries from the *Planes* were utilized, with data from the *Guías* and the *Estados* given consideration for crosschecking and verification. However, this process did not automatically make the tabulations error-free, as odd entries still became evident in the final tabulations. After the data had been tabulated and the demographic rates computed, it was possible to explain the unusual entries, particularly with the help of other sources of information.

Four Arrabales and Intramuros: A General Discussion

For the purpose of this study, five pueblos were chosen to serve as case examples in the analysis of urban and suburban population conditions in the nineteenth-century Philippines. Intramuros, considered the colonial capital and the original Manila (Camagay 1992; Reed 1978), was chosen to indicate the population conditions of an urbanized locality. Outside of the city walls, the *arrabales* (suburbs) supported the city, supplied it with provisions and human power for its sustenance, and served as alternative communities with commercial and economic potential outside of the walls. Two parishes north of the Pasig River, namely Tondo and Binondo, and two south of the Pasig River, namely Paco and Ermita, were chosen as the major foci of this study.

Data from the *Planes de almas* and other sources discussed above were used to compile and tabulate data on the total population from the *total de almas* (literally, the total number of souls), as well as the total number of baptismal, burial, and marriage ceremonies performed in the city and the four arrabales. The crude birth rates were computed utilizing the baptismal data and the total de almas, and the same process was repeated to calculate the crude death rates based on the burial data and the total population. The crude rates of natural increase were then computed based on the difference between the computed crude birth and crude death rates.

The data clearly show that Intramuros, with a total population of 15,896 in 1893 (table 1), was not the biggest pueblo during the nineteenth century. The biggest pueblos were found north of the Pasig, as exemplified by Tondo with a population of 31,963 in 1862 (table 2) and Binondo with a population of 33,438 in 1858 (table 3). The arrabales south of the Pasig River were also relatively small in terms of population: Paco had a population of 5,927 in 1856 (table 4), while Ermita had 7,578 in 1857 (table 5). In fact, the population figures of Paco and Ermita indicate that these pueblos were even smaller in population than some big parishes in the countryside, like Nagcarlan, Laguna (12,905 by 1881) (Ng 1979); some Cavite parishes like San Roque (13,939 by 1854), Bacoar (12,768 in 1858), Imus (17,403 in 1861), Maragondon (14,012 in 1857), and Silang (10,212 in 1857) (Gealogo 2005); or San Jose, Batangas (18,177 in 1875) (Gealogo 1995).

More remarkable was the increase in the population of these arrabales. Tondo and Binondo increased its total population more than fourfold in the course of the nineteenth century, although there were significant fluctuations between the years. In contrast, the population of Paco and Ermita initially increased, nearly doubling toward midcentury, only to decline and return to its early nineteenth-century level at the end of the century.

These findings are consistent with what earlier studies had shown. Camagay (1992), for example, underlined the divide between the north and south arrabales, with the former registering more economic development, population density, and concentration of resources and population than the latter. Doeppers (1998a, 1998b) has also pointed out that the human power requirements of the city were provided by migrants most of whom settled in the northern banks of the Pasig. Moreover, as Smith (1978), Camagay (1982), de Bevoise (1995), and Owen (1987a) have indicated, the nineteenth century was marked by increasing population pressure characterized by virulent epidemics that resulted in what Smith (1978) has called crisis mortality. The data in the *Planes de almas* of the four arrabales validated these earlier observations. The epidemics that visited the country in 1820–1821 were repeated with an almost regular frequency since the 1860s, with the 1882–1883 epidemic being the most virulent. In these years, all parish records manifested higher crude death rates compared with their corresponding crude birth rates, pointing to a negative crude rate of natural increase.

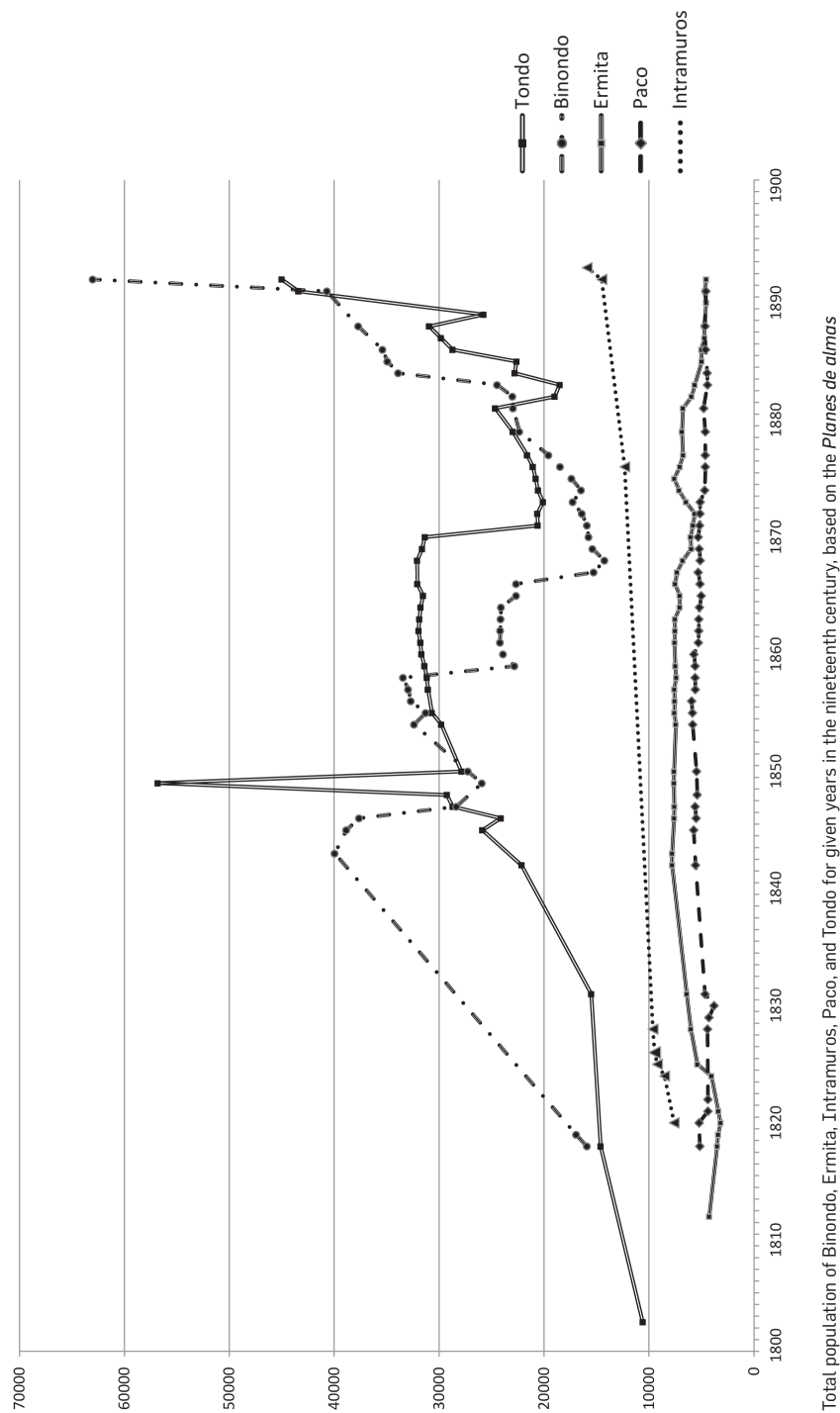
The data also show that, by and large, the nineteenth-century population of these pueblos tended to exhibit very high crude birth rates tempered by

equally high crude death rates—which would mean a stationary population, as in the case of the southern arrabales. The fourfold increase in the population of the bigger northern arrabales necessitates the identification of other demographic factors contributing to the population increase. Migration into these areas can be considered the most viable explanation for the continuous increase in population, despite the high mortality figures. This explanation affirms the earlier studies made by Doeppers (1998a, 1998b) regarding migration toward the bigger arrabales north of the Pasig River.

Counting Souls: Total Population

If one were to consider only the total number of souls counted at the beginning and end of the century, it would show that Intramuros doubled its population, Tondo and Binondo experienced a fourfold increase, while Paco and Ermita either stagnated or declined in total population count. Such generalizations, however, fail to note the observable fluctuations in the total population count of the five communities under study (see fig. on page 406). All four arrabales actually experienced a steady rise in population in the first half of the century, with Tondo tripling its population from 10,592 in 1802 to 31,963 in 1862 (table 2). Binondo, for its part, registered its highest population of 33,438 in 1858, a figure that was already more than double the population total of 15,913 forty years earlier (table 3). Although their increase in total population was not as dramatic as those of the northern arrabales, the smaller arrabales south of the Pasig also recorded their peak population numbers at around the same period. The highest reported population of Paco, which stood at 5,927, was noted in 1856 (table 4), while Ermita's highest population count of 7,578 was made in 1857 (table 5). The decrease in the population of Paco and Ermita would be most noticeable after the 1860s.

Researchers should take into account some noticeably odd entries in the reports of the total population of some communities. The data for Tondo offer some glaring examples (table 2). Compared with the preceding and succeeding years, the entries for 1849 and 1891 would make the data for these years totally unreliable. The recorded population of Tondo in 1849 was 56,821 while the 1848 population stood at 29,257 and the 1850 population was 27,866 only. The sudden spike in 1849 raises issues of reliability. For 1891 Tondo's reported population was 43,409, an unusually high figure, considering that the locality's reported population in 1889 was 25,755. If we



take the 1889 total count of 25,755 as the more plausible figure than that of 1891, then Tondo's total population for that year amounted to 2.5 times higher than the 1802 population count—not quite the fourfold increase during the century noted earlier. The 1889 level was significantly lower than Tondo's peak population count in 1862; nevertheless, Tondo remained one of the biggest arrabales in terms of total population.

The same can be observed for Binondo, with the final entry for the year 1892 showing an additional population of more than 22,000 inhabitants compared with the preceding year, a large jump difficult to comprehend. If one were to disregard the 1892 report of total population reaching 63,000 and consider the 1891 figure of 40,695 as the final one for this period, the increase in population from 1818 (15,913) to 1891 (40,695) would be 2.5 times only, which would not be as dramatic as the originally noted fourfold increase from 1818 to 1892. Moreover, the 1891 total would be only slightly higher than the peak population count in 1858.

Counting Baptisms: Crude Birth Rates

The continuous, albeit fluctuating, increase in the population of the communities included in this study was partly due to the increase in birth rates, as can be deduced from the increasing number of baptisms. Almost all parishes in the arrabales under study exhibited a steady increase in the number of baptisms during the nineteenth century. Tondo had 340 recorded baptisms in 1818 compared with 1,092 in 1889. Binondo had 1,202 baptisms in 1818 compared with 1,619 in 1888. In contrast, Paco had 102 baptisms in 1818, the figure rising to 288 in 1891; Ermita had 171 baptisms in 1812, while in 1891 the recorded figure was 239. If we consider baptisms as proxy events for births of children, the figures would mean a steady increase in the crude birth rates. Unlike the observations in the total number of population, however, the noticeable increase in the crude birth rates of the arrabales occurred in the third quarter of the century.

Although the absolute number of baptisms tended to remain at a constant level in Tondo (table 2), except for the unreliable 1892 report, the high crude birth rates in the range of the low 50s were most pronounced from the 1870s onward. The rate per 1,000 population was 50.0 for 1875 and 1876, 56.2 for 1877, 52.8 for 1882, and 50.0 for 1885. For most of the other years, the rates were in the high 20s to the middle and high 40s. While these rates are high compared with contemporary modern populations, these would

be considered comparatively low in a premodern demographic context. This trend would be in line with the earlier assertion that it was a migrant-receiving locality, and therefore had a comparatively greater number of adult population adding to the total population count, compared with a locality where the additional population resulted from increases in fertility.

Binondo tended to have higher absolute numbers of baptisms as well as higher rates of crude birth (table 3). As a matter of fact, it had the highest rates compared with all of the other localities in this study. The reported data for all years, except one, from 1859 until 1882 yielded crude birth rates of over 50, with the years 1868 and 1869 registering rates of 76.5 and 74.0, respectively. Although it is tempting to conclude that the community exhibited higher birth rates for the periods mentioned, one must consider the high incidence of adult Catholic conversions in this locality arising from Chinese and Chinese mestizo adults being baptized as new Christians. The baptisms recorded in Binondo, therefore, do not necessarily mean an increase in the number of children being born and eventually baptized, which in other places would be indicative of birth rates, but rather show the increase in the number of Catholic conversions by previously non-Christian sections of the population. Moreover, the period from the late 1850s to the early 1880s coincided with the period of increasing socioeconomic and political expansion in the roles played by Chinese and Chinese mestizos not only in Binondo but also in other communities where trade and agricultural production had experienced significant development. Being baptized a Catholic gave one's increasing socioeconomic status a religious character, in addition to the expediency that conversion served.

The same cannot be said when dealing with the number of baptisms and the crude birth rates for Paco (table 4) and Ermita (table 5). Without a comparable number of new converts to Catholicism as in Binondo or a massive in-migration as in Tondo, Paco and Ermita exhibited high crude birth rates that at times were even higher than comparable rates in the larger arrabales. In terms of absolute figures, the number of children that were baptized in Ermita and Paco (mostly in the 300 level) were comparatively lower than the thousands of baptisms in Tondo and Binondo. Tondo had twenty-four reported years while Binondo had thirty-eight such years when the number of baptisms exceeded 1,000. In contrast, Paco had ten years and Ermita had fourteen years when the reported baptisms exceeded 300. In both Paco and Ermita, there was no record of more than 400 baptisms for

the entire community. But because Ermita and Paco were relatively small communities, they yielded consistently high crude birth rates. In Paco, for example, all of the crude birth rates in all of the reported years from 1861 to 1891, except for 1883, were higher than 50, with the years 1874 (72.5), 1879 (70.1), and 1886 (69.1) exhibiting the highest rates. Ermita had more moderate rates, usually in the order of 30s to 40s, compared with Paco. However, there were peak years in the early 1820s, the late 1860s, the late 1880s, and the early 1890s when the crude birth rates hovered in the mid 50s to mid 70s.

Counting Burials: Crude Death Rates

Perhaps the single most dramatic factor that contributed to the fluctuations in the population count of communities was the number of deaths. All the arrabales under consideration here experienced crisis mortality in the course of the nineteenth century, with the almost decadal spikes in the number of burials signifying dramatic increases in crude death rates.

Tondo was one arrabal that was most severely affected by crisis mortality. The years 1863–1864, 1872, 1877, 1882–1884, and 1891 were times of extremely high mortality (table 2), with crude death rates per 1,000 climbing not only to the 60s and 70s but, in the case of 1882 and 1883, to as much as 205.7 and 129.3, respectively. As a result, there were noticeable decreases in the total population count of Tondo for these years, the outcome of which was a negative crude rate of natural increase in twenty-three reported years for the entire century. This meant that in twenty-three instances the crude death rate for the arrabal was higher than its crude birth rate. In seven of those years, the crude rate of natural increase was in the range of negative 20 or lower, with the years 1882 and 1883 posting the lowest rates of negative 153 and negative 87.7, respectively. As earlier studies of epidemics in the Philippines during the nineteenth century have shown, these years were also the years of high mortality resulting from the outbreak of virulent epidemics, particularly cholera (Smith 1978; Camagay 1982; de Bevoise 1995; Owen 1987a).

The predominantly Chinese and Chinese mestizo populations of Binondo were not spared these trends. Although not as dramatic as Tondo, the crude death rates for Binondo were also as high as the crisis mortality in Tondo for almost the same years (table 3). High death rates were noticeable for 1864, 1867–1868, 1872, and 1882–1883. Negative crude rates of natural

increase were manifested in twenty of the reported years, with the worst rates found for 1864 (-31.5), 1882 (-69.4), and 1883 (-40.8).

The arrabales of Paco and Ermita, south of the Pasig River, also did not escape the regime of high mortality for most of the nineteenth century. In twenty-eight reported years, the crude rate of natural increase was negative for Paco (table 4), while there were thirty-two recorded years with negative crude rates of natural increase for Ermita (table 5). The years 1864–1865, 1868, 1872, 1877, 1883–1884, and 1891 were also crisis years for Paco, with crude death rates higher than 70; the years 1820–1821, 1864, 1883–1884, 1888, and 1890–1891 were years of very high crude death rates that exceeded 70. No arrabal under study, therefore, was spared the incidence of high mortality caused by the outbreak of virulent epidemics.

Another observable trend was the very high crude death rates even for noncrisis years. In all of the localities examined, not a single year reported had a single-digit crude death rate. In “normal” years, mortality figures remained very high, with rates in the 30s and 40s. Moreover, the crisis years were concentrated mostly in the second half of the nineteenth century, with extremely high mortality figures occurring almost every decade from the 1860s onward. This pattern is consistent with the observation made by a number of scholars about the growing virulence of epidemics that affected the country toward the second half of the nineteenth century (Smith 1978; Camagay 1982; de Bevoise 1995; Owen 1987a). The high mortality figures limited the growth of population, which had already reached their peak numbers toward the end of the first half of the century. With the increase in the number of deaths, communities either stagnated in terms of their total population or grew very slowly during the second half of the century.

Conclusion

This brief discussion has demonstrated some possibilities with how demographic data, while giving due consideration to its limitations, can complement existing studies of the social and urban history of nineteenth-century Manila and its suburbs. The enormous data derived from the voluminous materials, primarily in the files of the *Planes de almas* found in the Archdiocesan Archives of Manila and other archival and printed historical materials, illumine a new dimension of the historical profile of the city. The impact of the epidemiological crises of the nineteenth century can be clearly studied to demonstrate what other scholars have termed as the

regime of crisis mortality that characterized population conditions in the past. Urbanization created uneven population centers in the suburbs, with majority of the population concentrating on the northern banks of the Pasig River, leaving the arrabales south of the Pasig with a smaller population. In both cases, however, the high crude birth rates that characterized these populations were tempered by the high crude death rates that were exhibited in almost all cases, which, during outbreaks of epidemics, even surpassed the birth rates and resulted in negative crude rates of natural increase. Only the in-migration from other areas tended to support the steady increase in the population of Tondo and Binondo.

The other conclusion from this study is methodological in nature. While the archival sources that contain population statistics of historical communities may be regarded initially as too voluminous and numerous as to intimidate the researcher, it is possible to apply simple computations and present the data in organized form to illuminate population conditions in the past. The quantitative data provide additional insights that supplement the existing historical narratives presented in earlier studies, particularly those on the imbalanced nature of the development of the population structure of the arrabales north and south of the Pasig; the impact of migration and ethnicity on the growth and expansion of local communities, particularly in Binondo and Tondo; and the effects of the outbreak of epidemics in Manila and contiguous areas. This study thus showcases the potential contribution of quantitative data analysis to the expansion of historical studies.

Table 1. Total population, baptisms, burials, marriages, crude birth rates (CBR), crude death rates (CDR), and crude rate of natural increase (CRNI) of Intramuros, 1818–1893

YEAR	POPULATION	BAPTISMS	BURIALS	MARRIAGES	CBR	CDR	CRNI
1818		377	136	87			
1820	7,612	362	387	76	47.6	50.8	-3.3
1824	8,519	404	156		47.4	18.3	29.1
1825	9,213	267	111		29.0	12.0	16.9
1826	9,463	418	112		44.2	11.8	32.3
1828	9,625	402	132		41.8	13.7	28.1
1846		376	241	51			
1847		424	222	39			
1849		382	223	30			
1850		390	280	34			
1859		454	233	57			
1871		263	187	69			
1872		237	256	63			
1875		237	146	94			
1876	12,314	268	185	77	21.8	15.0	6.7
1879		357	200	74			
1892	14,500						
1893	15,896	401	260	98	25.2	16.4	8.9

Sources: AAM 1812–1840; 1831–1849; 1850–1861; 1862–1870; 1871–1879; 1880–1887; 1887; 1888–1893; 1892–1911

Table 2. Total population, baptisms, burials, marriages, crude birth rates (CBR), crude death rates (CDR), and crude rate of natural increase (CRNI) of Tondo, 1803–1892

YEAR	POPULATION	BAPTISMS	BURIALS	MARRIAGES	CBR	CDR	CRNI
1803	10,592						
1818	14,610	340	276	85	23.3	18.9	4.4
1831	15,499	749	431	172	48.3	27.8	20.5
1842	22,138	983	646	142	44.4	29.2	15.2
1845	25,880	919	776	127	35.5	30.0	5.5
1846	24,115	877	963	264	36.4	39.9	-3.6
1847	28,691	673	980	225	23.5	34.2	-10.7
1848	29,257	877	1,064	126	30.0	36.4	-6.4
1849	56,821	919	885	175	34.3	33.0	1.3
1850	27,866	1,074	1,350	207	38.5	48.4	-9.9
1854	29,793	1,095	973	257	36.8	32.7	4.1
1855	30,690	783	859	150	25.5	28.0	-2.5
1857	31,063	1,011	1,068	149	32.5	34.4	-1.8
1858	31,167	903	1,151	148	29.0	36.9	-8.0
1859	31,382	1,074	941	205	34.2	30.0	4.2
1860	31,689	1,080	1,064	187	34.1	33.6	0.5
1861	31,788	1,199	1,501	200	37.7	47.2	-9.5
1862	31,963	1,087	952	145	34.0	29.8	4.2
1863	31,876	1,161	1,463	143	36.4	45.9	-9.5
1864	31,756	1,033	2,137	181	32.5	67.3	-34.8
1865	31,518	1,018	1,715	108	32.3	54.4	-22.1
1866	32,079	887	1,045	136	27.7	32.6	-4.9
1868	32,094	954	1,091	124	29.7	34.0	-4.3
1869	31,615	947	859	155	30.0	27.8	2.2
1870	31,354	1,029	1,278	170	32.8	40.8	-7.9
1871	20,600	934	1,190	281	45.3	57.8	-12.4
1872	20,640	899	1,587	287	43.6	76.9	-33.3
1873	20,092	974	1,155	188	48.5	57.5	-9.0
1874	20,560	829	930	255	40.3	45.2	-4.9
1875	20,800	1,040	930	226	50.0	44.7	5.3
1876	21,058	1,052	1,083	225	50.0	51.4	-1.5
1877	21,614	1,214	1,393	206	56.2	64.4	-8.3

Table 2. (continued)

YEAR	POPULATION	BAPTISMS	BURIALS	MARRIAGES	CBR	CDR	CRNI
1879	22,971	1,145	1,154	138	49.8	50.2	-0.4
1881	24,653	1,077	1,361	250	43.7	55.2	-11.5
1882	18,992	1,002	3,907	183	52.8	205.7	-153.0
1883	18,513	771	2,394	299	41.6	129.3	-87.7
1884	22,800	1,084	1,757	304	47.5	77.1	-29.5
1885	22,614	1,231	991	311	50.0	40.3	9.8
1886	28,715	1,181	884	249	41.1	30.8	10.3
1887	29,820	1,287	1,264	196	43.2	42.4	0.8
1888	30,936						
1889	25,755	1,092	894	184	42.4	34.7	7.7
1891	43,409	1,091	2,310	244	25.1	53.2	-28.1
1892	45,000	1,805	1,674	328	40.1	37.2	2.9

Sources: AAM 1812–1840; 1831–1849; 1850–1861; 1862–1870; 1871–1879; 1880–1887; 1887; 1888– 893; 1892–1911

Table 3. Total population, baptisms, burials, marriages, crude birth rates (CBR), crude death rates (CDR), and crude rate of natural increase (CRNI) of Binondo, 1818–1892

YEAR	POPULATION	BAPTISMS	BURIALS	MARRIAGES	CBR	CDR	CRNI
1818	15,913	1,202	522	218	75.5	32.8	42.7
1819	16,928	1,560	262	670	92.2	15.5	76.7
1843	39,952	1,085	1,563	136	27.2	39.1	-12.0
1845	38,841	954	1,006	128	24.6	25.9	-1.3
1846	37,620	975	1,114	221	25.9	29.6	-3.7
1847	28,341	1,128	934	176	39.8	33.0	6.8
1849	25,916	966	1,017	181	37.3	39.2	-2.0
1850	27,267	1,206	1,474	148	44.2	54.1	-9.8
1854	32,375	1,248	1,122	198	38.5	34.7	3.9
1855	31,272	1,229	1,201	204	39.3	38.4	0.9
1856	32,690	1,290	1,383	205	39.5	42.3	-2.8
1857	32,935	1,135	1,467	160	34.5	44.5	-10.1
1858	33,438	1,113	1,331	203	33.3	39.8	-6.5
1859	22,810	1,366	1,146	216	59.9	50.2	9.6
1860	23,896	1,210	1,336	197	50.6	55.9	-5.3
1861	24,193	1,408	1,885	190	58.2	77.9	-19.7
1862	24,180	1,320	1,172	206	54.6	48.5	6.1
1863	24,135	1,316	1,448	60	54.5	60.0	-5.5
1864	24,103	1,093	1,853	151	45.3	76.9	-31.5
1865	22,662	1,206	1,385	150	53.2	61.1	-7.9
1866	22,662	1,050	923	124	46.3	40.7	5.6
1867	15,263	986	1,176	118	64.6	77.0	-12.4
1868	14,244	1,090	1,047	168	76.5	73.5	3.0
1869	15,373	1,138	788	174	74.0	51.3	22.8
1870	15,756	1,026	1,198	175	65.1	76.0	-10.9
1871	15,908	1,042	1,128	174	65.5	70.9	-5.4
1872	16,389	895	1,247	167	54.6	76.1	-21.5
1873	17,269	1,090	918	157	63.1	53.2	10.0
1874	16,467	1,002	875	179	60.8	53.1	7.7
1875	17,388	1,133	879	168	65.2	50.6	14.6
1876	18,467	1,082	1,000	191	58.6	54.2	4.4
1877	19,576	1,130	1,089	325	57.7	55.6	2.1

Table 3. (continued)

YEAR	POPULATION	BAPTISMS	BURIALS	MARRIAGES	CBR	CDR	CRNI
1879	22,341	1,263	891	190	56.5	39.9	16.7
1880		1,280	1,123	208			
1881	22,946	1,333	960	284	58.1	41.8	16.3
1882	22,999	1,307	2,902	419	56.8	126.2	-69.4
1883	24,460	1,041	2,040	504	42.6	83.4	-40.8
1884	33,886	1,588	1,460	683	46.9	43.1	3.8
1885	34,919	1,530	800	366	43.8	22.9	20.9
1886	35,385	1,587	770	407	44.8	21.8	23.1
1888	37,701	1,629	1,324	378	43.2	35.1	8.1
1891	40,695	1,619	1,488	389	39.8	36.6	3.2
1892	63,000	1,006	1,129	272	16.0	17.9	-2.0

Sources: AAM 1812–1840; 1831–1849; 1850–1861; 1862–1870; 1871–1879; 1880–1887; 1887; 1888–1893; 1892–1911

Table 4. Total population, baptisms, burials, marriages, crude birth rates (CBR), crude death rates (CDR), and crude rate of natural increase (CRNI) of Paco, 1818–1891

YEAR	POPULATION	BAPTISMS	BURIALS	MARRIAGES	CBR	CDR	CRNI
1818	5,145	102	122	51	19.8	23.7	-3.9
1820	5,215	128	101	40	24.5	19.4	5.2
1821	4,371	181	423	44	41.4	96.8	-55.4
1822	4,369	186	195	65	42.6	44.6	-2.1
1828	4,424	204	274	41	46.1	61.9	-15.8
1829	4,281	181	123	27	42.3	28.7	13.5
1830	3,793						
1831	4,652						
1842	5,556						
1845	5,739	208	237	36	36.2	41.3	-5.1
1846	5,498	233	255	65	42.4	46.4	-4.0
1847	5,601	206	211	55	36.6	37.7	-1.1
1848	5,397	205	241	52	38.0	44.7	-6.7
1850	5,469	250	286	52	45.7	52.3	-6.6
1854	5,825	259	268	73	44.5	46.0	-1.5
1855	5,857	265	241	67	45.2	41.1	4.1
1856	5,927	280	367	60	47.2	61.9	-14.7
1857	5,581	263	309	45	47.1	55.4	-8.2
1858	5,593	219	279	46	39.2	49.9	-10.7
1859	5,604	271	223	70	48.4	39.8	8.6
1860	5,706	252	282	69	44.2	49.4	-5.3
1861	5,291	280	332	51	52.9	62.7	-9.8
1862	5,255	290	205	45	55.2	39.0	16.2
1863	5,241	302	356	45	57.6	67.9	-10.3
1864	5,183	287	396	52	55.4	76.4	-21.0
1865	5,018	252	425	38	50.2	84.7	-34.5
1866	5,126	303	291	64	59.1	56.8	2.3
1867	5,299	269	345	44	50.8	65.1	-14.3
1868	5,109	297	367	40	58.1	71.8	-13.7
1869	5,203	288	222	52	55.4	42.7	12.7
1870	5,299	303	315	57	57.2	59.4	-2.3
1871	5,174	283	285	59	54.7	55.1	-0.4

Table 4. (continued)

YEAR	POPULATION	BAPTISMS	BURIALS	MARRIAGES	CBR	CDR	CRNI
1872	5,137	279	392	61	54.3	76.3	-22.0
1873	5,118	310	242	36	60.6	47.3	13.3
1874	4,689	340	217	65	72.5	46.3	26.2
1876	4,620	259	294	56	56.1	63.6	-7.6
1877	4,631	303	333	68	65.4	71.9	-6.5
1879	4,635	325	251	46	70.1	54.2	16.0
1881	4,790	314	309	51	65.6	64.5	1.0
1883	4,424	216	558	50	48.8	126.1	-77.3
1884	4,456	267	311	84	59.9	69.8	-9.9
1886	4,601	318	179	55	69.1	38.9	30.2
1888	4,652	309	303	69	66.4	65.1	1.3
1891	4,567	288	468	29	51.7	84.1	-32.3

Sources: AAM 1812–1840; 1831–1849; 1850–1861; 1862–1870; 1871–1879; 1880–1887; 1887; 1888–1893; 1892–1911

Table 5. Total population, baptisms, burials, marriages, crude birth rates (CBR), crude death rates (CDR), and crude rate of natural increase (CRNI) of Ermita, 1812–1892

YEAR	POPULATION	BAPTISMS	BURIALS	MARRIAGES	CBR	CDR	CRNI
1812	4,260	171	82	47	40.1	19.2	20.9
1818	3,510	126	136	56	35.9	38.7	-2.8
1819	3,413	260	134	70	76.2	39.3	36.9
1820	3,181	223	540	49	70.1	169.8	-99.7
1821	3,387	244	245	69	72.0	72.3	-0.3
1824		265	243	53			
1825	4,046	284	197	74	65.2	48.7	16.6
1826	5,386	251	199	43	46.6	36.9	9.7
1828	6,008	272	185	53	45.3	30.8	14.5
1831	6,400	251	350	50	39.2	54.7	-15.5
1842	7,784	329	320	43	42.3	41.1	1.2
1843	7,784	354	447	42	45.5	57.4	-11.9
1846	7,595	280	397	82	36.9	52.3	-15.4
1847	7,569	298	349	71	39.4	46.1	-6.7
1849	7,623	320	356	50	42.0	46.7	-4.7
1850	7,612	334	434	54	43.9	57.0	-13.1
1854	7,440	259	338	35	34.8	45.4	-10.6
1855	7,575	318	394	63	42.0	52.0	-10.0
1856	7,554	301	362	52	39.8	47.9	-8.1
1857	7,578	302	475	47	39.9	62.7	-22.8
1858	7,410	193	349	66	26.0	47.1	-21.1
1859	7,489	381	287	78	50.9	38.3	12.6
1861	7,552	312	310	49	41.3	41.0	0.3
1862	7,513	271	310	43	36.1	41.3	-5.2
1863	7,524	329	508	32	43.7	67.5	-23.8
1864	7,066	299	670	59	42.3	94.8	-52.5
1865	7,072	311	447	33	44.0	63.2	-19.2
1866	7,503	276	321	32	36.8	42.8	-6.0
1867	7,324	271	474	36	37.0	64.7	-27.7
1868	6,782	263	365	46	38.8	53.8	-15.0
1869	5,972	327	255	57	54.8	42.7	12.1
1870	6,021	336	324	55	55.8	53.8	2.0

Table 5. (continued)

YEAR	POPULATION	BAPTISMS	BURIALS	MARRIAGES	CBR	CDR	CRNI
1871	5,818	245	364	59	42.1	62.6	-20.5
1872	5,632	261	112	93	46.3	19.9	26.5
1873	6,479	260	227	39	40.1	35.0	5.1
1874	7,129	238	221	59	33.4	31.0	2.4
1875	7,570	260	259	49	34.3	34.2	0.1
1876	7,051	234	240	40	33.2	34.0	-0.9
1877	6,747	255	319	36	37.8	47.3	-9.5
1879	6,858	212	218	127	30.9	31.8	-0.9
1881	6,755	236	308	50	34.9	45.6	-10.7
1882	5,939	203	750	48	34.2	126.3	-92.1
1883	5,632	177	502	64	31.4	89.1	-57.7
1885	4,975	270	254	52	54.3	51.1	3.2
1886	5,000	282	208	58	56.4	41.6	14.8
1887	4,699	293	309	53	62.4	65.8	-3.4
1888	4,726	310	391	48	65.6	82.7	-17.1
1890	4,546	288	353	39	63.4	77.7	-14.3
1891	4,676	239	450	34	61.1	96.2	-45.1
1892	4,546						

Sources: AAM 1812–1840; 1831–1849; 1850–1861; 1862–1870; 1871–1879; 1880–1887; 1887; 1888–1893; 1892–1911

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