A STUDY OF THE CHINESE POPULATION[16]

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CHAPTER VI

DEATH RATE

THE crude death rate must be used with the same care as the crude birth rate. It indicates simply the proportion of the population that has died during the year and is influenced by the age and sex composition of the population as well as by the specific mortality hazards to which the constituent classes of the population are exposed. For example, the population of France which has been about stationary for several decades has an age distribution less favorable to a low crude death rate than that of a new country like the United States, where high birth rates and immigration have yielded a relatively young population. It is important to bear the composition of the population in mind when interpreting the crude death rate.

The death rate for China was 25.7 per thousand living persons; for the North it was 24.2 and for the South 26.8 (Table 25). The higher death rate in the South was not due to a less favorable age distribution. In fact, as was pointed out in Chapter III, the age distribution of the Southern population is more favorable to a low death rate than that of the North. The crude death rate, therefore, masks somewhat the higher mortality of the South.

The reason for the higher death rate in South China is that conditions are more favorable to the spread of disease.

Death Rates, Deaths, and Living Populations	China	North China	South China
Deaths per 1,000 living			
Both sexes	25.7	24.2	26.8
Male	24.6	21.0	27.4
Female	26.8	27.8	26.1
Deaths			
Both sexes	1,736	725	1,011
Male	867	328	539
Female	869	397	472
Living population			
Both sexes	67,643	29,909	37,734
Male	35,262	15,617	19,645
Female	32,381	14,292	18,089

Table 25. Crude death rates by sex; 12,456 farm families, 22 localities, 11 provinces, China, 1929–1931.

Unclean drinking water in the South is responsible for more disease than in the North, because it is taken from rivers and ponds, while in North China most of it comes from wells. Mosquitoes and flies, important agents in the spread of disease, are also more common in the South than in the North where the climate is drier and colder.

Apparently in the case of the females, the benefits of a better environment in the North are counterbalanced by other factors, for we find on examining Table 25 that the lower death rate of the North was due to the fact that the death rate for males was considerably lower in the North than in the South. For females, on the other hand, the rate was a little higher in North than in South China. However, the higher death rate for females in the North was due entirely to an excessively high female infant mortality. When, as in Table 26, the death rates are computed for the population one or more years of age, the female mortality is also found to be a little lower in North than in South China.

Death Rates, Deaths and Living Population	China	North China	South China
Deaths per 1,000 living for persons one or more years of age			
Both sexes	20.6	17.8	22.8
Male	19.9	15.4	23.5
Female	21.3	20.4	22.0
Deaths at one or more years of age			
Both sexes	1,348	514	834
Male	680	232	448
Female	668	282	386
Population one or more years of age			
Both sexes	65,464	28,930	36,534
Male	34,103	15,079	19,024
Female	31,361	13,851	17,510

Table 26. Death rates for persons of each sex one or more years of age; 12,456 farm families, 22 localities, 11 provinces, North and South China, 1929–1931.

The mortality hazard for Northern females even after infancy is unfavorable compared with that of males. In South China the female death rate was if anything lower than that for males, but in North China it was almost one-third higher. The explanation is that the social status of females is lower in North than in South China. Special care before or after the women give birth to children is better in the southern part of China than in the northern section. For instance, in the South, the food given mothers after childbirth consists of eggs, chicken soup, hog kidney, and rice cangee; but in North China usually the mother is not permitted to eat any animal products such as eggs and meat soups, and is given only diluted millet soup. The undernourishment of the mother may be a factor in the high female death rate of North China.

China has the highest death rate but one of all the countries listed in Table 27. In India, mortality hazards appear to be greater than in the Chinese population under consideration. The death rate (1916–1920) was definitely higher and the populations have similar age distributions (Chapter III). The rate for China is most nearly approached by the rates for Japan (20.0) and the Soviet Republics (18.8) and is about twice as large as those for all the other Occidental countries except France where an unfavorable age distribution accounts in part for the relatively high death rate.

Table 27. Crude death rate for various countries, 1930.

Country	Death per 1,000 Population 1930
China	25.7[3]
India[1]	38.4[4]
Japan[2]	20.0[5]
Soviet Republics[2]	18.8
United States[2]	11.9[5]
Great Britain and Ireland[2]	11.8
England and Wales[2]	11.4
France[2]	15.7
Germany[2]	11.1
Sweden[2]	12.2

[1]Thompson, W. S.: Population Problems. New York, McGraw-Hill Book Company, Inc., 1930, p. 135.
[2]Official Year Book of the Commonwealth of Australia, No. 24, 1931. H. J. Green, Government Printer, Canberra, p. 705.
[3]1929–1931.
[4]1916–1920.
[5]1929.

INFANT MORTALITY

Infant mortality is usually a sensitive index of economic and sanitary conditions as they affect the health of the population. An infant is defined as a child under one year of age, and infant mortality is usually measured by the number of infant deaths per thousand live births in a year.

The infant mortality rate was 157 for China, 186 for North China, and 132 for South China (Table 28). The rates for each sex were higher in the North than in the South but for male babies the rate was only 20 per cent higher while for female babies it was 65 per cent higher in the North. Since the death rate for persons of each sex over one year of age

Infant Mortality Rates, Infant Deaths, and Births	China	North China	South China
Deaths under one year of age per 1,000 live births			
Both sexes	157	186	132
Male	144	158	131
Female	171	218	132
Deaths under one year of age			
Both sexes	388	211	177
Male	187	96	91
Female	201	115	86
Live births			
Both sexes	2,479	1,134	1,345
Male	1,301	607	694
Female	1,178	527	651

Table 28. Infant mortality rates by sex; 12,456 farm families, 22 localities, 11 provinces, China, 1929–1931.

was lower in North than in South China, it seems probable that the excessively high infant mortality rates found in the North are not so much the result of an unhealthy environment as of the traditional carelessness and neglect with which parents treat babies in general and girl babies in particular.

China has the highest infant mortality rate of all the countries listed in Table 29. Its rate is only approached by

Table 29. Infant mortality and crude birth rates for various countries.

Country	Infant Deaths per 1,000 Live Births 1930	Crude Birth Rate 1930
China	157[2]	36.6
Japan[1]	142[3]	33.0
United States[1]	68[3]	18.9
Germany[1]	84	17.5
France[1]	79	17.7
Great Britain and Ireland[1]	76[3]	16.8
England and Wales[1]	60	16.3
Sweden[1]	60[3]	15.2

[1] Official Year Book of the Commonwealth of Australia. No. 24, 1931. H. J. Green, Government Printer, Canberra, p. 707.
[2] 1929–1931.
[3] 1929.

that of Japan which, though twice as high as the rates of several Western countries, is somewhat lower than that for China. Of the Western countries Germany has the highest rate (84) and Sweden and England and Wales have the lowest rates (60). It is of some interest to note that while the two Oriental countries have infant mortality rates about twice as high as Western countries, their birth rates are also about twice as high. The association of high infant mortality with high birth rates, and low infant mortality with low birth rates appears to be universal.

CHAPTER VII
RATE OF NATURAL INCREASE AND FUTURE TRENDS

THE rate of natural increase of the population is found by subtracting the crude death rate from the crude birth rate or by dividing the excess of births over deaths by the population. The rate of increase was 10.9 per thousand inhabitants for China, 13.7 for North China and 8.8 for South China (Table 30). The higher rate for the North reflects, of course, the higher birth rate and lower death rate of that section of the country.

Of the countries for which the rates of natural increase are given in Table 30, China has the third highest. It is exceeded only by the extraordinary rate of 22.3 for the Soviet Republics and by a rate of 13.7 for Japan. In the latter country, a lower birth rate than that found in China is more than counter-balanced by favorable mortality rates. In each of the other countries the rates of increase are lower than in China, ranging from 8.7 in the United States with its relatively young population, to 1.1 in France where the population has been practically stationary for several decades.

Let us think what it means to China to have an annual rate of increase of 10.9 per 1,000 inhabitants. If the rate is

Country	Year	Natural Increase per 1,000 Population	Number of Years Required for the Population to Double at Current Rates of Increase
China	1929–1931	10.9	64
North China	1929–1931	13.7	51
South China	1929–1931	8.8	79
Japan[1]	1926–1930	13.7	51
Soviet Republics[1]	1926–1927	22.3	31
United States[1]	1925–1928	8.7	80
England and Wales[1]	1926–1929	4.3	161
France[1]	1926–1929	1.1	631
Germany[1]	1925–1928	7.5	93
Sweden[1]	1926–1929	3.9	178

[1]Official Year Book of the Commonwealth of Australia. No. 24, 1931. H. J. Green, Government Printer, Canberra, p. 661.

Table 30. Rates of natural increase for various countries.

really representative of all China the total population increase is probably between four and five million persons a year. If this rate of increase were to continue unchecked, it would require only 64 years for the population to double. North China would double its population in 51 years and South China in 79 years. On the same doubtful assumption, which nevertheless graphically pictures the forces at work, the Soviet Republics would double their population in 31 years and Japan its population in 51 years. All of the other countries would require a much longer time, ranging from 80 years for the United States to 631 years for France. Actually, of course, nothing of the sort is likely to take place. A simple annual rate of increase is not an adequate instrument for predicting future annual rates of increase. In the absence of radical technological and cultural changes, the very growth of the population sets at work new forces which modify the rate of growth long before well-populated areas double the number of their inhabitants.

POSITIVE CHECKS ON POPULATION

It is most unlikely that the rates of natural increase found in this study could continue, for they were obtained from regions in which during the survey year the most drastic positive checks on population were not operating. One could scarcely imagine China with twice its present number of inhabitants. The cultivated land area per capita in China not only does not increase but seems to decrease year after year. Available statistical data show that the cultivated land per capita was 3.8 mou (one mou equivalent to one-sixth acre) in 1766, 3.4 mou in 1812 and 3.3 mou at the present time.[17]

Let us imagine a country where there is available for each person only 3.3 mou of land worked by primitive agricultural methods, and where crop production is frequently checked by drought and flood. In such conditions, most of the farmers do not have enough land to produce sufficient food in good years to provide for the bad years. Therefore, when famine comes, many people must starve. The immediate causes of famine in China may be said to be flood, drought, and war, but the indirect cause of famine is overpopulation.

Professor J. O. P. Bland in HOUSEBOAT DAYS IN CHINA says:[18]

> "One cannot see a Chinese village and its inevitable pullulating horde of children without realizing the vital problem of the East, a problem so immediate and tremendous that it dominates the mind like an evil dream. . . . The picture is the same from one end of the country to the other; cities and villages innumerable taking their toll of the land, hamlets huddling even closer in valleys,

[17]Howard, Harry Paxton: *Op. cit.*, pp. 245–267.
[18]Bland, J. O. P.: Houseboat Days in China. London, William Heinemann, Ltd., 1909, p. 81.

where every field already supports more lives than would be possible in any other country except India; a third of humanity struggling hopelessly and unceasingly to procreate and maintain its swarm of predestined hungry ones. And for these there is no outlet; the untilled lands beyond the seas will have none of them; here they must live somehow or die . . . and so the inexorable law works out its own pitiless solution, and they go down, these superfluous lives, by millions, to fatten the tired earth which could not fatten them. The whole sorry tragedy goes on before our eyes; infanticide, rebellions and diseases, swift slaying of famine or slow starvation."

This quotation gives a complete picture of the Chinese population problem. The increase of population simply adds more pain and sorrow to the individual family and to society each year. There is a common saying among Chinese that "within thirty years there will be a small strife, and within fifty years there will be a big disaster." When the population increases for thirty to fifty years, some strife, disorder, or calamity must come to decrease it.

Beside the above general observation on the Chinese population problem, there are some concrete facts which indicate the positive checks to Chinese population growth during the last decade. Mr. Shi-Heng Li[19] in his book HU KAU TUNG LWEI states that:

"During the period of the Taiping rebellion there were more than 30,000,000 persons slain. In 1894 to 1895 in the Mohammedan Rebellion at Kansu there were 250,000 persons killed. In the years of 1810, 1811, 1846, and 1849 several famines occurred in wider areas of North China. About 45,000,000 persons starved. During 1877 famine covered three entire provinces of North China. There were approximately 9,500,000 persons dead from food shortage. In 1888 as a result of the break of the Yellow River there were ap-

[19]Li, Shi-Heng: Hu Kau Tung Lwei. Shanghai, The World Book Company.

proximately 2,000,000 persons drowned. In 1892 to 1894 there was a big drought in the province of Shansi, Shensi, Chili, and Mongolia, and the deaths of the people were enormous in number."

From 1911 to the present time, many famines have been due to drought, flood, civil war, and deaths have been estimated to include at least 5,500,000 persons.

When these calamities are considered, over-population appears to be the most important single factor in their explanation. If China does not limit her population increase, she will have no peace.

What, then, is the probable future trend of population in China? No single answer can be given to this question, since there are too many factors involved. Dr. Warren S. Thompson[20] in his book on "Population Problems" states:

"As for actual prediction as to what will be China's growth during the next half century, one can only hazard a guess. It seems highly probable that there will be considerable further expansion into Manchuria and Inner Mongolia. Perhaps 20,000,000 to 30,000,000 more people may live there 50 years hence than at present. But who can say when civil war will cease in China? Who can say when China's transportation system will be sufficiently developed to carry food to famine-stricken areas? Who can say how rapidly industrialization will proceed and great cities will develop, and whether industrialization in China will have as depressing an effect on the birth rate as in the west? Who can say whether the Chinese will be allowed to settle upon, or will become strong enough to take, some of the unused lands of the earth to provide homes for increasing numbers? Who can tell how long it will be until better medical care and sanitary practices shall bring the death rate largely within man's control? Who knows how much additional land there is in China, that can be profitably tilled when modern agricultural machinery becomes avail-

[20]Thompson, W. S.: *Op. cit.*, pp. 227–228.

able? Finally, who can tell how long the Chinese family system will withstand the onslaught of industrialism and thus delay the spread of contraception?

"These are by no means all the important factors in China's situation about which we should know more, but they will serve to indicate the difficulty of predicting the growth of China's population for even a very brief period in advance. On the whole, it seems rather probable that, aside from the expansion of the Chinese through colonization in Manchuria and Mongolia, there is little likelihood of any considerable change in China's population within the next few decades."

If Dr. Thompson's idea is correct, probably some population increase can be absorbed through colonization in Manchuria and Mongolia, but with the formation of the new state in Manchuria in 1931, Manchurian colonization is problematical. It will be difficult to increase China's population except in adjustment to the principle of struggle for existence and survival of the fittest. War, pestilence, drought, and flood seem to be the only way to eliminate the excess of Chinese population at present. Peace and order in China will be difficult to maintain so long as each year adds four to five million potential trouble-makers.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

THE main purpose of this study is to determine the composition and growth of the Chinese farm population during a normal year.

The "joint family" system in which sons tend to live with their wives in the homes of their parents prevails in the rural population of China but this tendency is stronger in the North than in the South. In the absence of parents, brothers tend to separate and maintain their own homes. For China

the mean size of the family is 5.25 and of the household 5.43. The families and households were somewhat larger in the North than in the South where improved means of communication and industrialization are breaking down the patriarchal family.

A larger proportion of the Chinese population, as compared with the populations of Western countries, are young and middle-aged and a smaller proportion are over 50. This is due to the high birth rate and relatively short span of life in China.

The ratio of males to 100 females is 109 for China, North China and South China respectively. The irregularities of the sex ratio in the different age groups are caused chiefly by under-reporting of younger children, deaths from diseases especially for females, and migration of males.

The age distribution of persons married during the year studied shows that the girls are married in greatest proportion when under 20 years of age and that the men marry a little later than women. Poverty is the chief cause of later marriage among men, but custom dictates that girls should be married by 20 years of age. The average age at marriage in China for males is 20.19 years and females, 18.82 years. The marriage rate in China is 7.86 per 1,000 living population, which is not higher than that found in most countries.

China has a high birth rate of 36.6 and a high death rate of 25.7. Both the birth rate and the death rate are higher in the North than in the South. One factor in the high death rate is the high infant mortality rate which is 157 for China but ranges from 131 for male infants in South China to the extremely high rate of 218 for females in North China, where the traditional status of women and infants is low.

The annual increase is 10.9 per thousand living inhabitants. If this rate of increase obtains throughout China,

the population must be increasing between four and five million people a year. Since the amount of cultivated land per capita is 3.3 mou, the problem of food shortage is very acute. Frequent famine and other catastrophes seem to be the only way of relieving population pressure at present in China.