# A STUDY OF THE CHINESE POPULATION[1]

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~THIS paper comprises the first two chapters of Mr. Chiao's study. The remaining chapters will appear in the January and April issues of the *Bulletin*.

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## CHAPTER I

### INTRODUCTION

CHINA is a large country, having approximately one-quarter of the population of the world. The number of her people was estimated by Professor W. F. Willcox[2] and Chang-hung Chen[3] in the papers presented at the Ninetieth Conference of the International Institute of Statistics at Tokio of Japan in 1930. Professor

[2]Willcox, Walter F.: A Westerner's Effort to Estimate the Population of China, and Its Increase Since 1650. *Journal of the American Statistical Association*. New Series, No. 171, xxv, September, 1930, pp. 255-268; also Bulletin de L'institut International de Statistique, xxv, 3ème Livraison, La Haye—'S-Gravenhaye, 1931, pp. 156-170.

[3]Chen, Chang-hung: China's Population Problem. (Presented to the Nineteenth Conference of the International Institute of Statistics, Tokio, September 1930). For resumé of this discussion, see Bulletin de L'Institut International de Statistique, xxv, Ière Livraison, Tokio, 1932, pp. 74-81.

Willcox estimated the population at about 350,000,000 and Mr. Chen at about 480,000,000. The difference of these two estimates is 130,000,000 persons. If we take earlier estimates of China's population, we find that the Official Census[4] in 1910 reported 342,639,000 persons and in 1912, 377,673,423 persons. In the year 1923 the Chinese Postal and Maritime Custom[4] estimates were 438,373,680 and 444,968,000 persons, respectively. According to the estimate of Professor Willcox, the population of China probably has not increased since 1910. According to the official Government estimates and those of individual Chinese students, the population of China has been increasing since 1910. Of the above estimates, which is more accurate? This is a difficult question to answer. But it is safe to say that an average of the estimates is probably more nearly correct than any one estimate. It is therefore probable that China has a total population of about 400,000,000 inhabitants. Since China has so large a population, the study of the composition and growth of this population seems important.

There are various opinions about the growth of population in China. Many prominent scholars believe that China's population is not increasing and perhaps is even decreasing, and that China will have no problem of over-population at least until the time the unsettled area, especially in the Northwest, is occupied. In general there is a common opinion among most of the middle-class people of China that the population of the other races and nations is increasing more rapidly than their own. Therefore a higher birth rate must be advocated or extinction will result. This superficial assumption results chiefly from the lack of available population data in China. Therefore, the purpose of this study is to

[4]Howard, Harry Paxton: Population Pressure and the Growth of Famine in China. *Chinese Economic Journal*, lv, No. 3, March 1929. Published by Bureau of Industrial and Commercial Information, Shanghai, China, pp. 245-267.

help determine what the composition and the growth of the population of China really is.

## METHOD OF THE STUDY

The data used in this study are a portion of the data collected in connection with the China Land Utilization Population study now being conducted by the Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, and which is financed by the China Council of the Institute of Pacific Relations.

The method used in this study is the sampling survey method. The information was collected upon a prepared population and vital statistics schedule. For the purpose of collecting reliable data, the field investigator of each locality was chosen directly from the local community through recommendation of local leaders. After the right man was selected, he was carefully trained in the use of the schedules through actual field practice under the supervision of a regional investigator. For most of the localities, the regional investigator remained in the field until the work was completed and checked. One schedule was used only for each farm family. The number of schedules which were recommended to be collected in each locality was 600 or more. But for various reasons the number varied. The method of selecting the families in the chosen village was to obtain information from each family in the village or if only part of a village was surveyed, then each consecutive family on a street was taken. There was no personal choice or selection of families allowed in filling out the schedules in order to avoid the bias caused by improper sampling.

The information in the schedule covered the previous year's period, either a calendar year or a fiscal year, depending upon the time of year the data were gathered. From the

experience of many investigators, it was learned that when the survey started just after the Chinese New Year, use of the lunar calendar year was better because it was easier for the farmers to remember the past events from the previous New Year to the next. Otherwise, the fiscal year was used. The best date for a fiscal year was obtained by counting from a Chinese festival day of one year to the same festival day of the next year.

The survey method used in this study is shorter and quicker than the registration method. The information from one family for the previous year could be obtained in half an hour's time. Usually, the Chinese farmers remember quite clearly the details of the events which occurred in the family during the previous year. The number of births, deaths, marriages, and migrations were the big events of the year and the adults in the family could report this information very accurately. Sometimes even the neighbor families could report exactly the big events studied. The survey method, however, had its difficulties. Some points would be neglected either by the investigator or by the farmer. This difficulty was eliminated chiefly by preparing carefully organized schedules and instructions and by using well trained local investigators who would ask questions involving only a single idea in order to prevent the farmers giving useless information. The main trouble experienced in this study was the psychological reaction of the farmers. In certain localities the farmers did not wish to report their male babies for fear of some misfortune happening to the child. In some localities, false ages were reported for girls of marriageable age because the parents were reluctant to report their ages to other persons. These situations were hard to eliminate. The local investigator overcame these difficulties by watching, in so far as possible, very carefully the farmer's attitude in answer-

ing the questions. If the investigator judged the information to be unreliable, he eliminated this family.

A comparison of the survey method with the registration method is summarized as follows:

| *Registration Method* | *Survey Method* |
|---|---|
| Registering the information when it occurred during the year. | Taking the previous year's information at one time. |
| 1. Requires more time. | 1. Saves time. |
| 2. Expensive. | 2. Inexpensive. |
| 3. Information obtained through the whole year. | 3. Information obtained in short period. |
| 4. Usually registering one case at one time, hence fewer mistakes. | 4. Recording all cases occurring during past year at one time, hence more mistakes by investigators and informants. |
| 5. Errors caused by farmers' suspicion cannot be avoided in first few years. | 5. Errors caused by farmers' suspicion cannot be avoided except by using some experienced local investigators. |
| 6. Difficult to conduct at any time and at any place. | 6. Easier to conduct at any time and any place. |

From the above contrast of the two methods, it is observed that each has its advantages and disadvantages. The adoption of either method depends upon the nature of the institutions and uses of the material. If these materials are collected for a whole nation or a definite area by the government for a permanent record year after year, the registration method is suggested. If the information is secured at a given time in a typical region in order to study a specific population problem in one region or several regions, and the future con-

tinuous study in that area is indefinite, then the survey method is recommended. The accuracy of these two methods will be compared later in the discussion of the birth rate.

### REGIONAL DISTRIBUTION OF THE DATA

The information in this study was collected from 22 typical localities in 11 provinces from a total of 12,456 farm families. This is probably a representative sample for different regions of Chin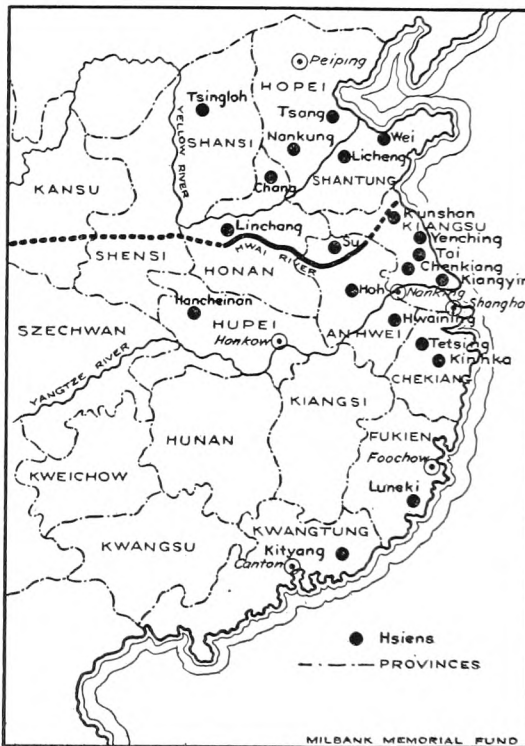a. The data in the tables are presented by three totals, the first total is the grand total for all these 22 localities and is indicated by the word "China." The second total is for North China in which 9 localities are included and the third total is for South China in which 13 localities are included. The boundary line between North and South China is the Hwai River (Fig. 1). The climate, soil, crops, and topography are quite different in each of these regions. Therefore, the mode of farm life is also quite different. Probably there are differences in the composition of the population in these regions. These are the reasons for making the two divisions, North



Fig. 1. Location of provinces and areas in China in which population studies were made.

| Provinces and Hsiens in Which Studies Were Made | Year to Which Data Pertain | Number of Farm Families Studied |
|---|---|---|
| *North China* | | |
| Hopei | | |
| Tsang | Jan. 1929 – Dec. 1929 | 360 |
| Nankung | Jan. 1930 – Dec. 1930 | 630 |
| Shantung | | |
| Wei | Feb. 1929 – Jan. 1930 | 368 |
| Licheng | Jan. 1930 – Dec. 1930 | 597 |
| Wei | Oct. 1930 – Sept. 1931 | 784 |
| Shansi | | |
| Tsingloh | Feb. 1929 – Jan. 1930 | 259 |
| Honan | | |
| Cheng | June 1928 – May 1929 | 1,124 |
| Linchang | Nov. 1929 – Oct. 1930 | 458 |
| Anhwei | | |
| Su | Nov. 1929 – Oct. 1930 | 598 |
| TOTAL | | 5,178 |
| | | |
| *South China* | | |
| Hupei | | |
| Hancheinan | Nov. 1929 – Oct. 1930 | 603 |
| Anhwei | | |
| Hwaining | Aug. 1929 – July 1930 | 379 |
| Hoh | June 1930 – May 1931 | 788 |
| Kiangsu | | |
| Yenching | Nov. 1929 – Oct. 1930 | 600 |
| Tai | Nov. 1929 – Oct. 1930 | 588 |
| Kunshan | Feb. 1929 – Jan. 1930 | 609 |
| Kunshan | June 1930 – May 1931 | 806 |
| Chenkiang | June 1930 – May 1931 | 586 |
| Kiangyin | June 1930 – May 1931 | 515 |
| Chekiang | | |
| Kinhwa | Jan. 1929 – Dec. 1929 | 290 |
| Tetsing | June 1928 – June 1929 | 500 |
| Fukien | | |
| Lungki | Feb. 1930 – Feb. 1931 | 610 |
| Kwantung | | |
| Kityang | Feb. 1930 – Feb. 1931 | 404 |
| TOTAL | | 7,238 |
| | | |
| TOTAL 22 LOCALITIES | | 12,456 |

Table 1. Sources of data by provinces and hsiens and years for which data were obtained, and number of farm families studied.

and South China. The distribution of the data by localities and by years, in which the survey was made, and by number of farm families studied is shown in Table 1.

This study compares, on the one hand, North, South, and China as a whole, and on the other, compares these data with those of other countries. It does not intend to study each locality in detail. The attempt is merely to indicate some general fundamental principles for the Chinese population.

## CHAPTER II

### THE CHINESE FAMILY

Before any attempt is made to describe the Chinese family, the definition of terms under this topic must be made. The term, "family" is used to include all relatives living and eating together. It may be a "joint family," which includes near relatives of the family head and his wife such as his brothers, brothers' wives and children, and parents, or it may be a small or natural family consisting only of husband, wife, and their children. The term "household" is used to include all relatives of the family head and all employees, or any others who are living and eating together in the same home during most of the year.

### MEMBERS OF THE FAMILY

The head in the Chinese family is usually the male person who handles the purse of the family. Generally it is the eldest man in the family. For instance, if a family consists of two brothers, the elder brother will have the title of head. If their father is still living with them, the title will belong to him. But in case the father is unable to manage the family affairs due to old age or sickness, the title will be given to his eldest son. In China, no woman is recognized by the public as the family head, because in the Chinese family the man is considered more essential to the continuance of the male line for the practice of ancestor worship. Some widows act as the

family heads when their sons are very young, but the sons remain in name the heads of the families.

More than seventy kinds of relatives were found in the families included in this study. No one family had as many members as seventy different relatives. Each family contained certain combinations of relatives. What is the fundamental principle underlying such a family organization? In China, a married son seldom establishes a new home, but continues to live, with his bride, in the home of his parents. When his sons marry, they and their wives, in turn, live in the same household with their parents and grandparents. Thus a Chinese family may sometimes include several generations, from the great grandparents to the great grandchildren. In order to become thoroughly familiar with the composition of the Chinese family, the best way is to picture the extent to which different relatives were found in the families by the proportion of each type of relative in the total population.

In Table 2, the different relatives are grouped into three near genetic relationships, such as parents, family of the head and his descendants, and brothers' family and his descendants. It is found that for China as a whole about 85 per cent of the total population belongs to the immediate family of the head and his descendants, about 9 per cent to the family of the head's brother, and about 5 per cent to the family of the head's parents.

The Chinese family head lives more with his own descendants than with his brothers. The small proportion of parents of the head reflects simply the fact that the parent is usually the head. If either parent is alive, the children live with the parent. But in the absence of a parent, family disputes and disorganizations occur between brothers, because of the inability of their wives to agree. In order to maintain their own family harmony, brothers separate and maintain

| Relationship to the Family Head | China | North China | South China |
|---|---|---|---|
| *Parents* | | | |
| Grandmother | 0.2 | 0.2 | 0.2 |
| Father | 0.6 | 0.4 | 0.7 |
| Mother | 3.7 | 3.7 | 3.7 |
| Stepmother | 0.1 | 0.1 | 0.1 |
| Mother-in-law | 0.1 | . . . . | 0.1 |
| Father's brother | 0.1 | 0.1 | 0.1 |
| Father's brother's wife | 0.1 | 0.2 | 0.1 |
| TOTAL | 4.9 | 4.7 | 5.0 |
| *Family of the head and his descendants* | | | |
| Male head | 17.2 | 16.1 | 18.1 |
| Wives | 15.6 | 14.4 | 16.6 |
| Concubines | 0.1 | 0.2 | 0.1 |
| Sons | 22.5 | 21.3 | 23.5 |
| Sons adopted | 0.3 | 0.2 | 0.4 |
| Daughters | 12.5 | 10.6 | 14.1 |
| Daughters adopted | 0.3 | 0.1 | 0.4 |
| Sons' wives | 6.5 | 7.7 | 5.6 |
| Sons' fiancees | 0.5 | 0.1 | 0.8 |
| Grandsons | 4.8 | 6.1 | 3.8 |
| Granddaughters | 3.6 | 4.5 | 2.9 |
| Grandsons' wives | 0.4 | 0.6 | 0.2 |
| Great grandsons | 0.2 | 0.3 | 0.1 |
| Great granddaughters | 0.1 | 0.2 | . . . . |
| TOTAL | 84.6 | 82.4 | 86.6 |
| *Brother's family and his descendants* | | | |
| Brothers | 2.8 | 3.1 | 2.6 |
| Sisters | 0.8 | 0.6 | 0.9 |
| Brothers' wives | 1.6 | 2.1 | 1.2 |
| Brothers' sons | 1.6 | 2.3 | 1.1 |
| Brothers' daughters | 0.9 | 1.3 | 0.5 |
| Brothers' sons' wives | 0.4 | 0.6 | 0.2 |
| Brothers' grandsons | 0.2 | 0.3 | 0.1 |
| Brothers' granddaughters | 0.2 | 0.3 | 0.1 |
| TOTAL | 8.5 | 10.6 | 6.7 |
| TOTAL OF ABOVE THREE GROUPS | 98.0 | 97.7 | 98.3 |
| OTHER RELATIVES | 2.0 | 3.3 | 1.7 |
| GRAND TOTAL | 100.0 | 100.0 | 100.0 |

Table 2. Percentage distribution of family members in relation to the family head; 12,456 farm families, 22 localities, 11 provinces, China, 1929–1931.

their own homes. This results in the establishment of a larger number of small families made up of husband, wife, and their children. So it is natural that more family heads live with their own immediate family division than with their brothers.

Many years ago, the greater family system in China was encouraged by the government and supported by public opinion. The large families had several generations living together without any family division. The force which brought them together happily and peacefully was only the patient attitude of each person in the family. The people called such a family the model family. But at the present time the large family system is becoming very weak in many parts of China. The small family system is preferred. The chief reasons for this change are twofold. In the first place, family members now have more contacts with other communities than formerly in most parts of China. This situation encourages them to be more individualistic than before. So the local customs, traditions and mores, are losing their hold. In the second place, economic conditions have changed and now, as merchants, military officers, and laborers in the cities, many are receiving better economic returns than from farming at home. Naturally they desire a higher standard of living and more personal freedom. As a result, the desire is created, either to spend the money or save the money for their own wives and children. As a result the old family economic pooling system has become weakened.

Such conditions are more prevalent in South China than in North China because in South China communication is better and the cities are more prosperous. Many rural people leave the farms to seek a better job in the cities. For instance, in Nanking City, many men come from Northern Kiangsu and Anhwei to pull rickshas in the city. Likewise the farmers near Nanking go to Shanghai to be merchants and laborers.

All these factors contribute to the establishment of a family of close blood relatives in the rural districts. If we compare North and South China in Table 2, we find that South China has a higher per cent of people in the group of "the family of the head and his descendants" and fewer people in the group of "brother's family and his descendants." This indicates that the smaller family is in greater favor in South China than in North China.

When we study the composition of the family by relationship, we find that in the parents' group, mothers are more common than fathers. The reason is that in the Chinese families when the father dies the son becomes the head of the family. In the immediate group of the head of the family there is a larger proportion of sons than of daughters. This is due to the fact that daughters when married leave their own family and become members of that of their husband, as may be seen in the relatively large proportion of sons' wives.

Contrasting North China with South China, we find that South China has a higher percentage of male heads and their wives, sons, and daughters. This is probably due to the other relatives in this and other groups constituting smaller percentages. The higher percentage of daughters living at home in South China families is probably due to a higher marriage age than in North China. Sons' wives, grandsons, grandsons' wives, and granddaughters are found more often in the families of the North than of those of the South. The differences are probably caused by marriage at earlier ages, higher birth rates, and stricter adherence to the traditions of the large family in North China than in South China.

Concubines constitute 0.2 per cent of the population in North China families as against 0.1 per cent in South China. Concubines are taken largely because no sons have been borne by the first wife. Sons in the Chinese family are essen-

tial to the continuance of the male line. Upon them depends the proper worship of the ancestors. Family tradition in North China seems stronger than in South China. Therefore, in North China more male heads have concubines.

The custom of rearing a son's fiancee in the family of the person to whom she is betrothed was reported in almost every locality studied. For all China this betrothed group constituted 0.5 per cent of the family population but it was only 0.1 per cent in the North and was 0.8 per cent in the South. In the North, two out of nine localities reported no son's fiancees and the maximum per cent found in any locality was 0.5; in the South there was only one out of thirteen localities in which no fiancees were found and in Lungki, Fukien province, they constituted 3.7 per cent of the population. The differences in the adoption of this practice are explained in several ways. In general, those families practicing this custom are poor. This is true with respect to the immediate family of the girl, and also the family of the son for whom the wife is obtained. There is an economic advantage, resulting to both families. It means to the male head's family that when a son's fiancee is adopted that an additional family helper, either for household work or for farm work without payment of wages, is obtained. For the girl's family it means the reduction of one mouth for food consumption. Why is this system more prevalent in South China than in North China? It is probably partly due to custom and partly due to economic pressure. Usually, in South China marriage is not an expensive thing, since it is unnecessary for the family of the girl to ask for a large dowry. When the son reaches the age of marriage, he can marry if the family can support him and his wife. But this is not true in North China because the marriage is an expensive thing. Those families that have daughters hold them as valuable commodities in waiting for

a good market price. These values increase with increasing age. Therefore, in North China this practice of taking a fiancee occurs less frequently than in South China because the girl's parents can make money from her. It also creates the condition that girls in North China marry earlier than men. Many old men have never been married due to this economic factor.

<div align="center">SIZE OF FAMILY AND SIZE OF HOUSEHOLD</div>

In Table 3, the size of farm families and of farm households is shown by the mean and the median size. For China the mean size of the farm family is 5.25 persons. The mean size of household is 5.42 persons. The median size of family and household is 4.48 and 4.49 persons, respectively. In North China the mean and median size of farm family and household is larger than in South China. It is therefore evident that there are more persons in the family and in the household in North China than in South China. The highest average size of family for any locality is 7.07 persons at Tsingloh, Shansi province, in North China and the lowest is 4.24 persons at Kunshan, Kiangsu province, in South China. The former is located in a mountainous region with poor communication and the latter is located in a fertile plain in in the Yangtze valley with good communication.

Table 3. Mean and median size of farm family and household; 12,456 farm families, 22 localities, 11 provinces, China, 1929–1931.

| REGION | FAMILY | | HOUSEHOLD | |
|---|---|---|---|---|
| | Mean | Median | Mean | Median |
| China | 5.25 | 4.48 | 5.43 | 4.49 |
| North China | 5.55 | 4.49 | 5.78 | 4.56 |
| South China | 5.03 | 4.20 | 5.18 | 4.39 |

The frequency distribution by size of families for the total of 12,456 farm families in China is shown by percentage in Table 4. When plotted, an asymmetrical curve results. It is due chiefly to some extremely large families which are found in both regions. Therefore, the curve has considerable skewness to the right of the mode. When we compare the two curves for North and South China, we find that in North China the skewness is greater than in South China. It could be said that in the North there are proportionally larger families than in South China (Fig. 2).

The frequency distribution of the American farm families of New York State for 1930 shows the same type of curve as in China but the deviation of skewness from the mode is smaller than for China. The modal size of the New York farm family is two persons per family. The median size of the farm families for all the families in the State is 3.31 per-

Table 4. Percentage distribution of farm families by size in comparison with rural farm families of New York State; 12,456 farm families, 22 localities, 11 provinces, China, 1929-1931.

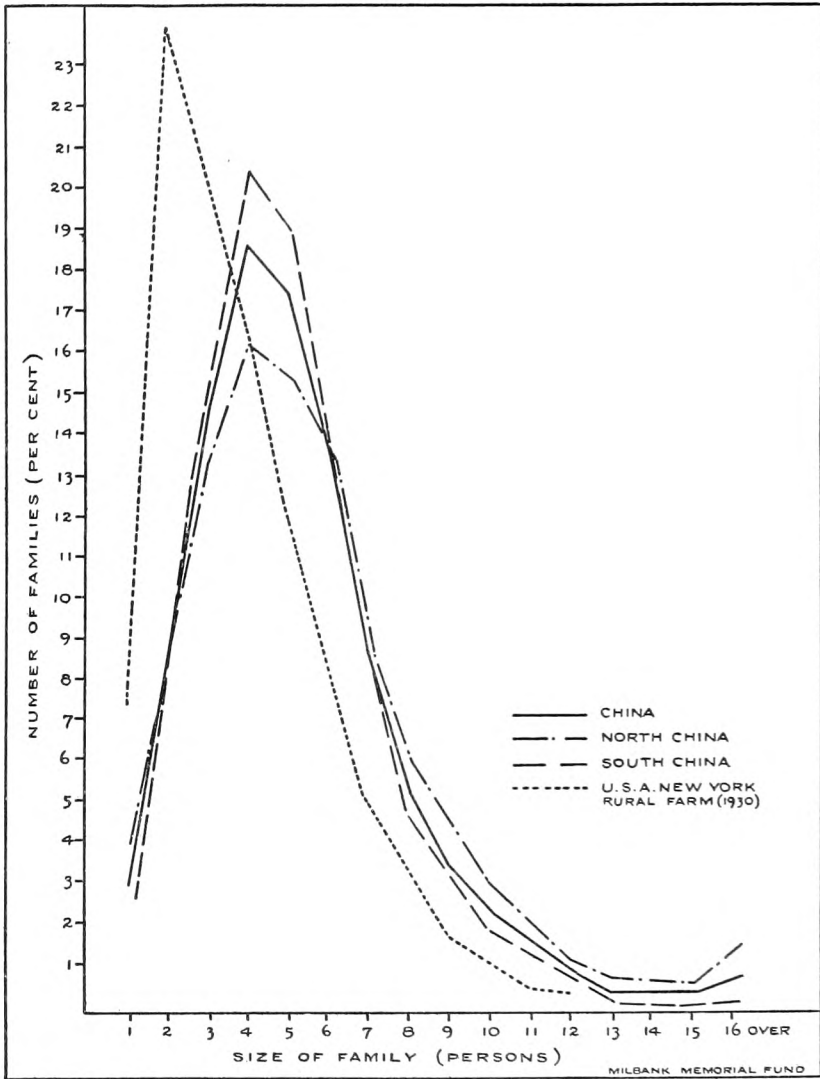| NUMBER OF PERSONS IN THE FAMILY | CHINA | NORTH CHINA | SOUTH CHINA | NEW YORK STATE OF U.S.A. (1930) |
|---|---|---|---|---|
| 1 | 3.1 | 3.8 | 2.6 | 7.5 |
| 2 | 8.3 | 8.8 | 7.8 | 24.1 |
| 3 | 14.6 | 13.4 | 15.5 | 20.0 |
| 4 | 18.7 | 16.3 | 20.4 | 16.7 |
| 5 | 17.5 | 15.5 | 19.0 | 12.0 |
| 6 | 13.8 | 13.7 | 13.9 | 8.0 |
| 7 | 8.6 | 8.9 | 8.4 | 4.9 |
| 8 | 5.2 | 6.1 | 4.6 | 3.0 |
| 9 | 3.4 | 3.6 | 3.3 | 1.7 |
| 10 | 2.3 | 3.0 | 1.8 | 1.0 |
| 11 | 1.6 | 2.0 | 1.3 | 0.5 |
| 12 | 0.9 | 1.2 | 0.8 | 0.4[1] |
| 13 | 0.4 | 0.8 | 0.2 | ... |
| 14 | 0.4 | 0.7 | 0.1 | ... |
| 15 | 0.4 | 0.7 | 0.1 | ... |
| 16 and over | 0.8 | 1.5 | 0.2 | ... |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

[1] 12 and over.

Fig. 2. Frequency distribution of size of the farm family (persons) of China and of the United States (New York State).

sons. The reasons for the smaller size of American farm families compared with the Chinese families are fourfold. First of all, the Chinese families practice the "joint family" system. The married sons seldom establish a new home, but continue to live, with their brides, in the home of their par-

ents. But the American married son almost always establishes a new home after his marriage. Secondly, there were probably many more rural people who left their homes to go to the city for work in America than in China as a result of the differences in the degree of industrialization. Differences in the extent of industrialization is the chief reason why China has about 80 per cent of her total population living on the farm while America has only about 24.6 per cent[5] in 1930. In the third place, the most important factor in reducing the size of American farm families is not only through industrialization in cities which pulls farm people from the farm but also the use of farm machinery on the farm, which causes many people in the families to find it necessary to migrate. Fourth, the rise in standard of living in American farm families may cause the people to reduce the number of children in the home.

In addition to all the other factors which may weaken the Chinese large family organization, there are other factors such as the size of the farm and the size of the family. The one given by Professor Buck is the most important. "Probably the increasing population in relation to a comparatively stationary tillable area is chiefly responsible for breaking up of the 'large family' system in rural China, thus bringing about an adjustment between size of farm and size of family."[6]

[5]Buck, J. L.: Chinese Farm Economy. Chicago, The University of Chicago Press, 1930, p. 335.

[6]Brunner, E. deS. and Kolb, J. H.: Rural Social Trends. New York, McGraw-Hill Book Co., Inc., 1933, pp. 17-19.